YACHTING

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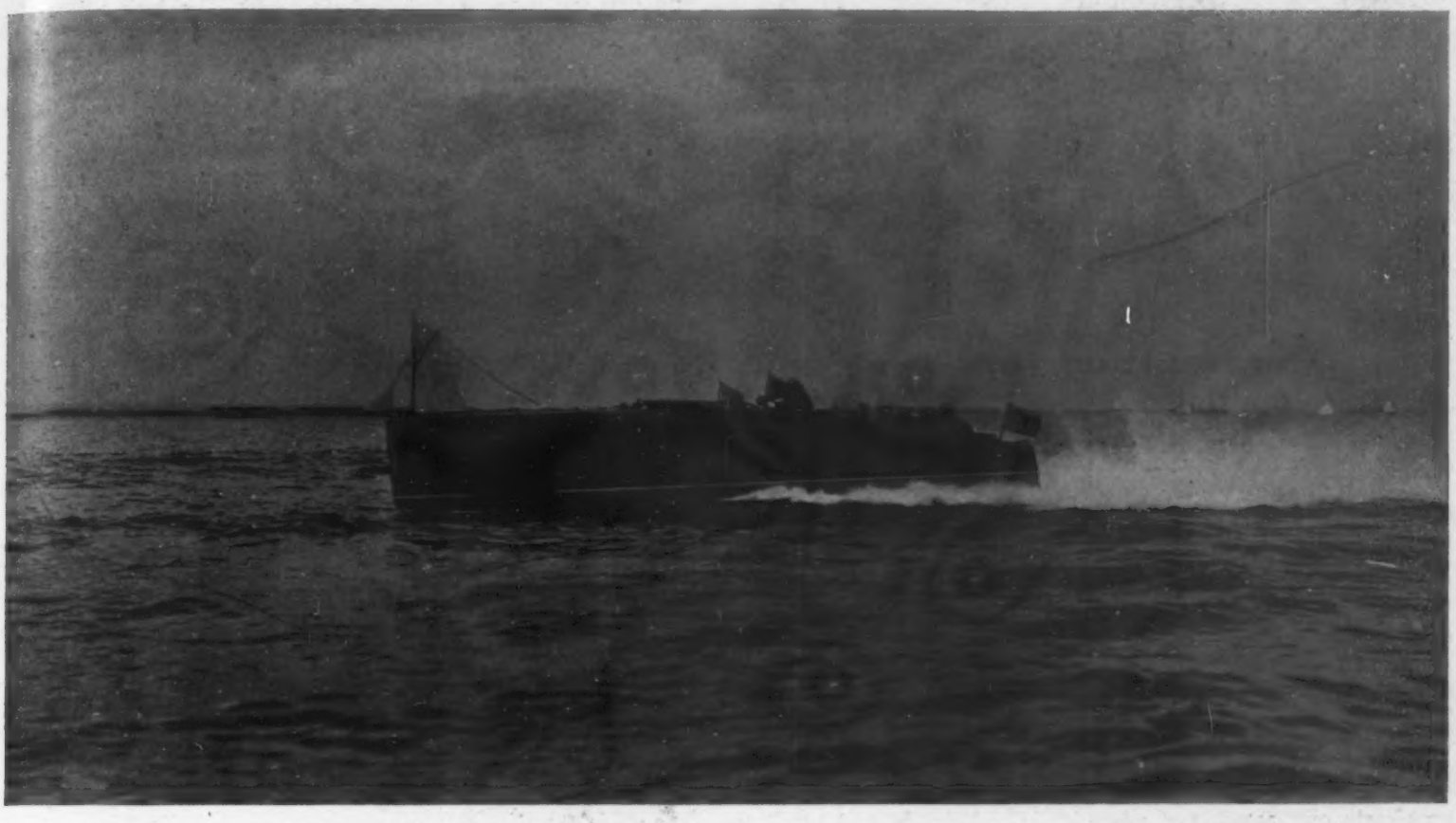


ANKLE DEEP, WITH A RECORD OF 46.4 MILES OVER THE B. I. T. COURSE, WAS THE MOST CONSISTENT PERFORMER IN AMERICA LAST YEAR

High Speed vs. Extravagant Claims

How the Abuse of the Truth Has Hurt the Sport of Racing and Has Set Up a False Standard by Which to Judge a Boat. What Has Really Been Done in the Speed Line

By HERBERT L. STONE

EARLY last July there was held in Huntington Bay what purported to be a series of elimination races to pick a team to go to England to fetch back the British International Trophy. Nine months before, when Maple Leaf IV had finished winning the Cup, we had flung down the "defi" with a good deal of assurance and the announcement that we would build a number of boats faster than anything heretofore seen. All through the winter there was talk of 50- and 60-mile boats being built, and at one of the big motor boat shows the public was shown a boat said to have made 63 miles an hour, and that carried a guarantee of 65 miles. Yet when the time came to pick a team of these speed marvels to go over and bring back the Cup, they faded away like a dollar bill in a Broadway restaurant. And what did we see? Just two of the old reliables of the previous season that came out and could do their 40 to 45 miles per hour, and one or two new boats "not yet in condition" that "also ran" yet couldn't go fast enough to get in the money. The 63-miler was there. She only completed the course once, and the speed she showed was 35½ nautical miles (41 statute miles) per hour.

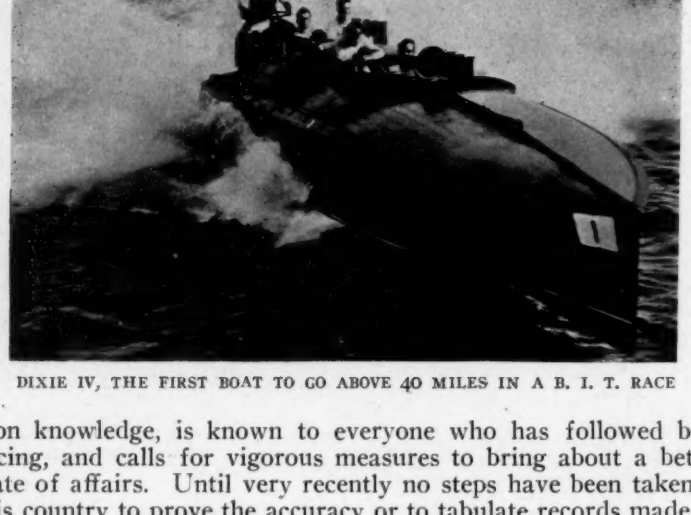
The public was disappointed. It had been educated up to a 60-mile speed, and anything less was little short of fraud. We had been betrayed and the Cup was lost for another year! But if the "common people" were sore, what must have been the feelings of the men who had put up their good money for these 30- and 40-foot "gold bricks," believing that they could be made to "deliver the goods."

Now we are not finding fault with the failure to attain the speed that we had been led to expect. It is a big jump from 45 miles to 60 miles and upwards—more than one should look for in a single year, even with the development of the hydroplane and high-speed engine. What we are quarreling with is the loose talk about speed that has been bandied about, and the extravagant claims not only of the boat owners, but of some boat and engine manufacturers, made in an effort to sell their products, without knowledge as to whether the craft can make good.

It is only human nature to believe the racing boat you own is faster than the stop watch shows; but it is something besides human nature that hawks around an impossible guarantee for a boat that has never been in the water, whose engines have never been turned over, and which is, in the nature of things, more or less of an experiment.

Not only have guarantees been made without knowledge of what the boat would really do, but trials have been run deliberately over courses that were known to be short, with the desire to show a higher speed than already recorded. So common has this practice become, and so much has it found reflection in motor-boat racing, that in many racing events it is deemed necessary by those in charge to break records and set up new high speed marks in order to increase the interest in, and the importance of, the event. The easiest way to do this is by shortening the course. Even where courses are surveyed and marked by reputable engineers the buoys are sometimes surreptitiously removed in order to obtain the desired results, until the sport of motor-boat racing in many places has fallen into disrepute, and is suffering in consequence.

This is not any new thing that we are uncovering. It is com-



DIXIE IV, THE FIRST BOAT TO GO ABOVE 40 MILES IN A B. I. T. RACE

mon knowledge, is known to everyone who has followed boat racing, and calls for vigorous measures to bring about a better state of affairs. Until very recently no steps have been taken in this country to prove the accuracy or to tabulate records made by speed boats, which aids still further the loose talk of high speed. Prior to 1913, with the exception of one or two events, no supervision of courses was attempted, and only a few of them were known to be absolutely accurate.

It was a commentary on the state of affairs that boats that were making 45 to 50 miles on other courses immediately lost about 10 miles in speed when they were run over courses like those for the Gold Challenge Cup and the British International Trophy.

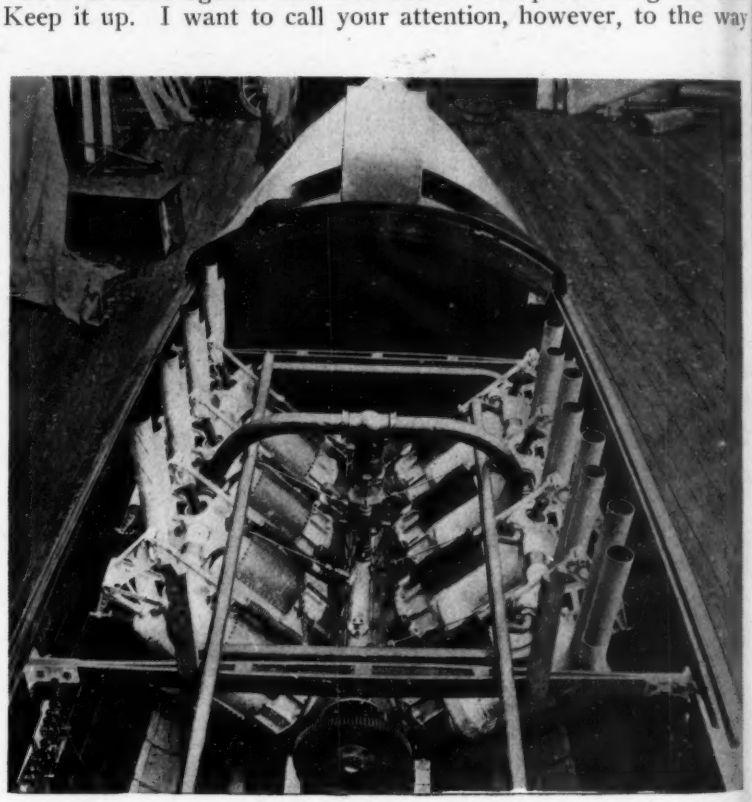
Another way in which this exaggerated speed talk hurts the game is that it scares out of many events entries that would have an excellent chance if they only knew it. No man wants to be hopelessly outclassed, and when he is confidently told that one of his competitors has been making 50 miles right straight along, he hesitates to put his 35-miler in the same race with her. Doubtless this has something to do with the meager list of entries at Huntington Bay last year, as well as in a number of other important events.

Yet the value of the sport should lie in the pleasure of racing and in the keenness of the competition, rather than the fact of winning, and every man with any sporting blood in his veins takes off his hat to the owner of a little boat called the Scat, which raced at the Perry-Centennial Regatta last year, in entering his boat in every race, even where she was hopelessly outclassed, and sticking through to the end, even if she did come in last every time.

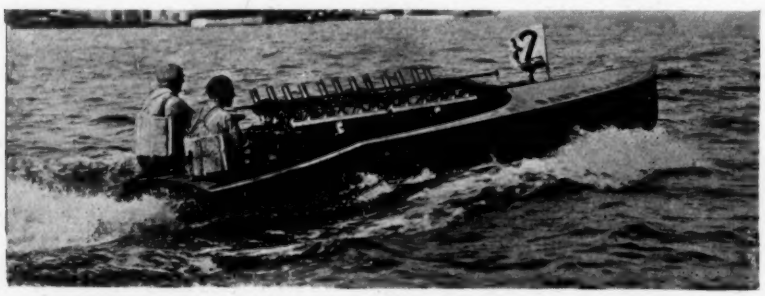
Many of our long distance races have lost their popularity through this same talk of exaggerated speed, and many an owner has not entered his boat, fearing the other man's "15-mile" cruiser built for this event, or else the "rule-beater" built especially to get a low rating on any particular handicapping rule.

The quest of the ultimate in speed is always an elusive thing; yet speeds well in excess of any heretofore recorded are possible of attainment under certain conditions. It is possible to build a 60-mile boat provided a man wants to spend the money necessary to do so, and goes about it in a scientific manner, using the data that has been collected as the result of the best boats and engines that have gone before; but it can only be obtained by hard work and painstaking effort, and not in a haphazard way, and by the fanciful lure of a shortened course or *guaranteed* experiments. There are plenty of boats to be had that have nothing the matter with them except their general uselessness, but the real 60-milers are not to be found in this class.

When a firm with a reputation behind it, and with experience along the lines in question, undertakes to build a boat and guarantees a certain speed, it may be assumed that the builders know what they are talking about, and are "playing it safe," setting the limit low enough to be reasonably sure of attainment, with the possibility of a higher speed being obtained. In other words, they do not place their guarantee on the highest *possible* speed, but on the highest *probable* speed, and they usually make good—just as a firm of marine hardware manufacturers did for one of its customers who has recently written us, after reading this series of articles that we have been publishing in YACHTING. He says: "Your crusade against bad methods in the sport is a good one. Keep it up. I want to call your attention, however, to the way some concerns make good. So I am sending you a receipted bill from the ——— company who fixed a capstan I had bought from them for my boat, did not quibble about the express charges, and did not ask me to return the broken part. There were no questions asked about how I broke it, when, or why, and no charge. They had guaranteed the capstan in question, and made good to the full extent of their guarantee."



ENGINE OF DIXIE II. THIS ENGINE WAS LATER USED WITH ANOTHER OF THE SAME MAKE IN DIXIE IV



BABY RELIANCE III, IN 1912, DID A MILE AT THE RATE OF 53.7 MILES, THE HIGH SPEED RECORD. SHE HAD THE FULL CURRENT OF THE MISSISSIPPI WITH HER, HOWEVER, AND THE ACCURACY OF THE COURSE IS NOT VOUCHED FOR

The following article gathers together for the first time in this form the speed records of the last ten years, showing just what has been accomplished in this period since the internal combustion engine has been used for racing purposes. It shows a wonderful advancement in speed, particularly in the last two or three years—an advance that almost takes one's breath away when one stops to consider it. It shows an increase of almost 20 miles an hour since 1910, and it makes speeds up to 50 miles an hour spoken of lightly where we would have considered them the wildest dreams of imagination only a few years ago. The record is a wonderful one, and speaks much for the development of the gasolene engine, and for the hulls that carry them.

The Progress of the Hydroplane

By LAWRENCE B. CHAPMAN

THE records of the past season show a great step in advance for the high speed craft. Not only has there been an advance in speed, but, what is more important, there has been a marked increase in endurance and reliability. Let us for a moment glance back into the past years and see what progress has been made along various lines.

Figure 1 shows in an interesting form the records in speed for the last ten years. Nearly all the records of the noteworthy boats have been taken in making up this chart, and by referring to the corresponding number in the table some of the most interesting ones will be found tabulated.

It should be pointed out here that every effort has been made to make the records in Figure 1 as reliable as possible, and only the most trustworthy data has been used, and this checked as far as possible. However, as all yachtsmen know, most of the speeds reported are more or less exaggerated, so the results shown here should be taken with a grain of salt. Still they show clearly the progress, and the heavy line showing the B. I. T. records, of course, is authentic and serves as a guide. The upper dotted line shows the maximum speeds reported, and, of course, many of these are only for *short runs at sudden bursts of speed.*

To go back to the curve again, it will be noticed that for the first five years the points seem to lie close together, showing but little increase in speed, although the B. I. T. races, representing the picked boats, show a gradual increase. Some few high records are given, but the general trend shows but little progress between 1904 and 1908.

Up to 1908 the records are for displacement boats, but in 1909 the first influence of the hydroplane began to be felt. It is true that the hydroplane had been experimented with as far back as 1905, but not until 1909 did it become a serious proposition. The curve shows a number of high points for this year, but they were only maintained over short courses. Not until 1911 did the design of the hydroplane become so perfected that its results began to be felt in the racing. The curve of maximum speeds shows a rapid and steady increase from 1909.

In 1911 Dixie IV appeared, being the first reliable hydroplane in the B. I. T. races. The B. I. T. curve shows a rapid rise in 1911, due to her influence and for the next two years the increase in speed has been about at the same rate. (It might be mentioned here that the B. I. T. records of the past season have been greatly questioned, some quoting them in nautical miles, others in statute miles. The latter appears to be the prevailing opinion and by far the most reasonable, and has been used in this curve.)

Figure 1 not only shows the records year by year, but it shows the way speeds have increased in general, at first slowly and uncertainly, and then, when the hydroplane appeared in racing form in 1911, at a rapid rate.

TABLE I.—Showing some of the noteworthy boats, 1903 to date.

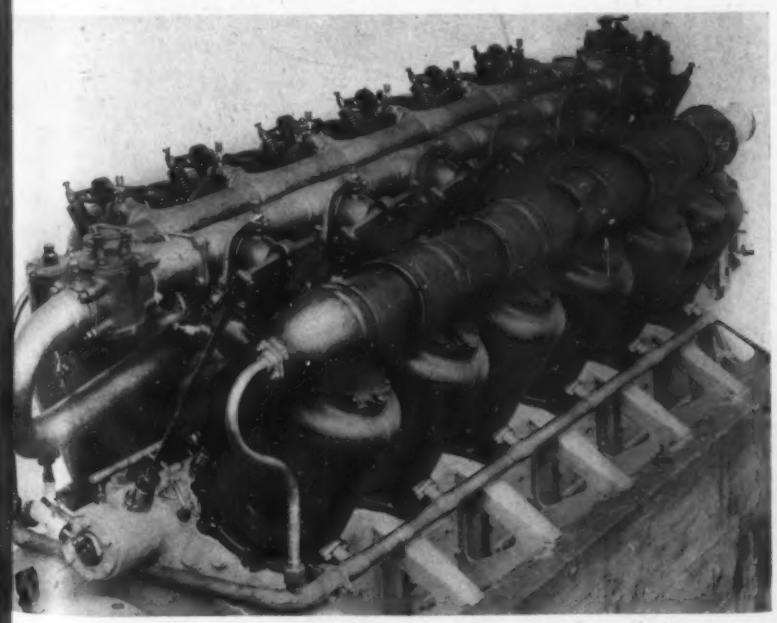
No.	Name	Speed Miles	H. P.	Weight Per H. P.	Length	Type	No. Screws	Disp. in Pounds	Make of Engine
1	Napier I.	21.9	80	....	39.9	Disp.	1	....	.....
2	Adios	23.0	120	....	55.0	"	1	....	.....
3	Legru-Hotchkiss	30.5	138	....	39.4	"	1	....	.....
4*	Vingt et Un II.	26.0	75	....	38.8	"	1	3,850	Smith & Mabley
5	Standard	21.5	110	....	58.0	"	1	....	Standard
8	Trefle a Quatre	26.8	80	....	29.8	"	1	....	.....
9*	Dixie I.	31.8	150	....	40.0	"	1	5,160	Smith & Mabley
10	Napier II.	29.8	150	....	40.0	"	2	7,170	.....
11	Veritas	26.6	283	....	56.0	"	1	12,000	.....
15	Daimler II.	26.7	240	....	39.3	"	3	....	Daimler
16	Rapiere	29.3	110	....	26.2	"	1	....	.....
18*	X P D N C	26.4	75	....	42.2	"	1	3,250	.....
20	Chip II	28.0	77	....	....	"	1	....	Leighton
21*	Irene	29.6	200	8.5	39.7	"	2	5,600	Chadwick
23	Den II	28.7	80	....	30.0	"	1	....	.....
24*	Dixie II	32.0 36.0	220	10	33.5	"	1	4,500	Smith & Mabley
25*	Wolsely-Siddley	35.5	414	8.2	39.4	"	2	9,856	Wolsely
27	Chip III	31.0	200	9.0	....	"	2	....	Leighton
29	Ursula	33.2	800	....	50.0	(?)	2	....	.....
30*	Miranda IV	41.0	110	....	26.0	Hydroplane	1	2,800	Thornycroft
31	Pioneer	45.9	380	....	40	"	1	....	.....
32*	Dixie III	35.0	220	10	39.5	Disp.	1	4,500	Crane
34*	Dixie IV	40.3	440	10	40.0	Single Step	2	....	"
35	Peter Pan V	43.0	150	8.7	20.0	"	1	....	Van Blerck
36*	Maple Leaf IV.	49.2	750	7.5	40.0	5 step	2	....	Austin
37	Baby Reliance I	35.8	150	9.3	20.0	Single step	1	....	Sterling
38	Baby Reliance II	46.3	150	9.3	20.0	"	1	....	"
39	" III	53.7	250	....	20.0	"	1	....	Van Blerck
40	Oregon Wolf	40.0 38.9	250?	5.0	40	Disp.	1	....	Smalley
42	Oregon Kid	48.0	125	10.0	20	Single step.	1	....	Van Blerck
41	P. D. Q. II	36.8	75	14.7	32.0	Single step.	1	....	Sterling
44*	Ankle Deep	46.4	300	9.2	32.0	Single step.	2	....	"
51	Sand Burr II	45.4	...	....	20.0	Monoplane.	1	....	Emerson
52	Kitty Hawk V	43.6	250	....	26.0	Single step.	1	....	Van Blerck

Data marked * is highly reliable. Horse-powers for other boats are only approximate; as reported by the builder.

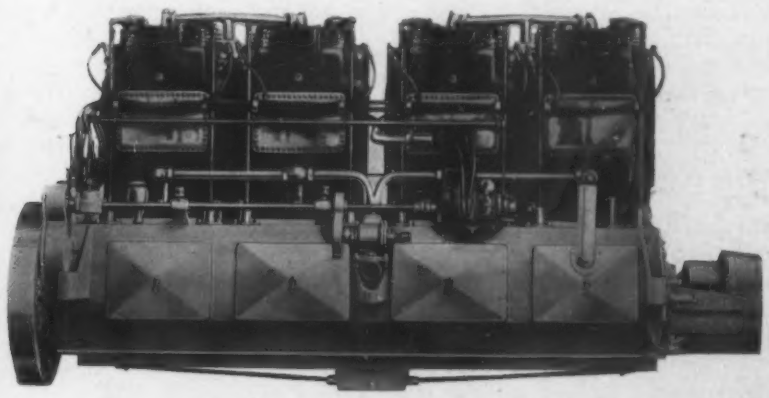
If the speeds keep on increasing as they have in the past three years, in 1916 we ought to see the B. I. T. race won at a speed of 60 miles. All we have to do is to continue the curve straight up, as shown dotted, and read off the speed against 1916. This, of course, is only a probability, but still is based on past records which have shown no tendency to fall off so far. New developments may arise to change the future prospects, but in the light of our present knowledge there appears no reason why this is not probable.

Figure 1 shows the development that has been made in speed, but the biggest part of the development is left untold—that is, endurance and reliability. If we look back on the records of 1903-1912 we see a sad spectacle of capsizes, wrecks and engine troubles of every imaginable nature. The year 1913 has certainly seen a great improvement in this line.

No sooner had the displacement hull been perfected than the



NE OF THE TWO 12-CYLINDER ENGINES OF MAPLE LEAF IV. DEVELOPS 405 H. P. AT 1,150 R. P. M. AT A WEIGHT OF 7.5 POUNDS PER H. P.



ONE OF THE TWO 150-180-HORSEPOWER ENGINES OF ANKLE DEEP. WEIGHT, 1,400 POUNDS

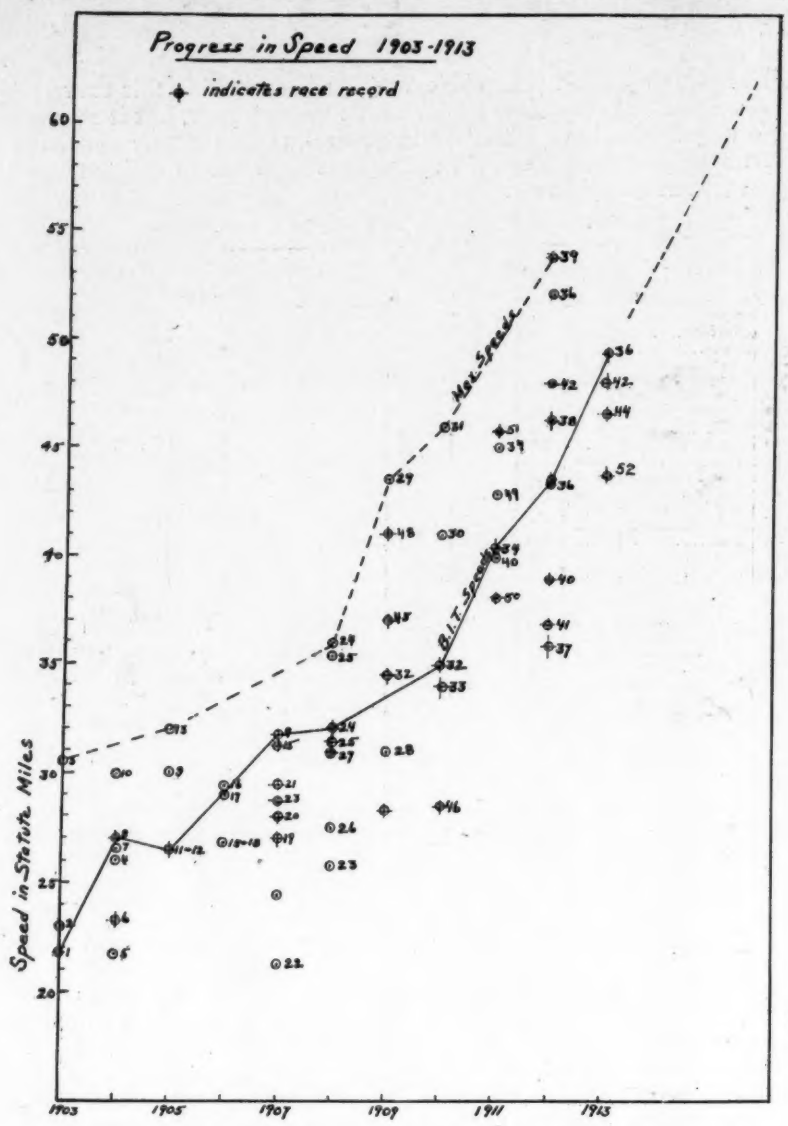


FIG. I.—CURVE SHOWING SPEED PROGRESS FOR LAST TEN YEARS

hydroplane appeared, bringing new records of disaster. One merely has to read the back issues of the boating magazines for a full and interesting account of all these years. The subject that is of present interest, however, is the engine.

While the hulls have been having their share of the trouble, the engine has been no better off, and the pace was pretty rapid for manufacturers to keep up with satisfactorily.

Most of the engine trouble has been caused by trying to adopt the automobile type of motor to marine work. There is no doubt but that the automobile engine has set the pace in details and design of gasolene engines, for the automobile engine builder went to work seriously and in a scientific manner to perfect the engine, while many of the marine engine builders went at it by the "cut and try" method. Nevertheless, the marine engine builder knew exactly what conditions he had to meet, and, adopting details from the automobile engine, has to-day produced an engine that will stand the test of endurance of high speed over a 30-mile course. It is only after the automobile engine has been completely thrown out that reliability has become to-day a factor in the high speed marine engine.

The engines of Maple Leaf IV are an important exception to this, but the company that built them have had considerable costly experience in this line. The engine of Dixie II, used again in Dixie III and IV, is one of the most successful engines that has been produced. The brilliant records of these boats are sufficient evidence. This engine was purely a marine engine designed especially for Dixie II. Then there are the engines used in Chip III, Ankle Deep and many of the recent twenty-footers—all pure marine engines. One has merely to compare the records of these boats with some of the foreign boats powered with auto engines as raced at Monaco, for proof of these statements.

Let us now turn our attention again to the table and note the column marked "weight per horse power." Unfortunately, no authentic data can be obtained for the early boats. It will be noticed, however, that the data for the last five years shows but little change in engine weight. The engines of Dixie II weighed 10 pounds per horse power, and this was the first high speed engine that could stand full load for any length of time. Since then the engine builders have stopped cutting down weight at the expense of endurance. Nine and ten pounds seems to be about the standard figure to-day, about the same as Dixie II.

Builders of aëro engines have had the same experience as the marine engine builder, and to-day weights per horse power are beginning to increase in that field. Engines showing light weights per horse power could not stand full load for any length of time, which of course meant the engines were rated too high for continuous service. Five pounds per horse power has been reached in aëro work, but there seems slight probability of this figure being successfully reached in marine work. Dixie's engine was arranged in V-form (the lightest arrangement except the star or radial type of aëro engines), copper covers for the water jackets were used and many other refinements adopted.

(*Continued on page 323*)

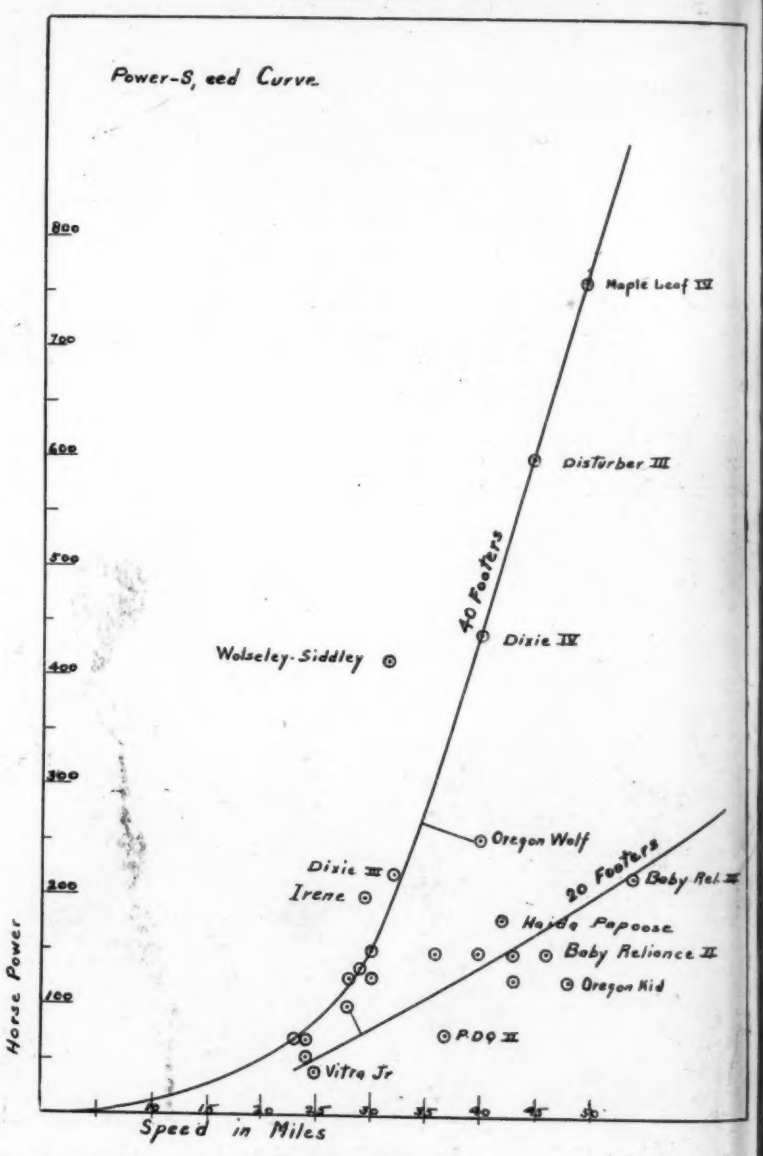
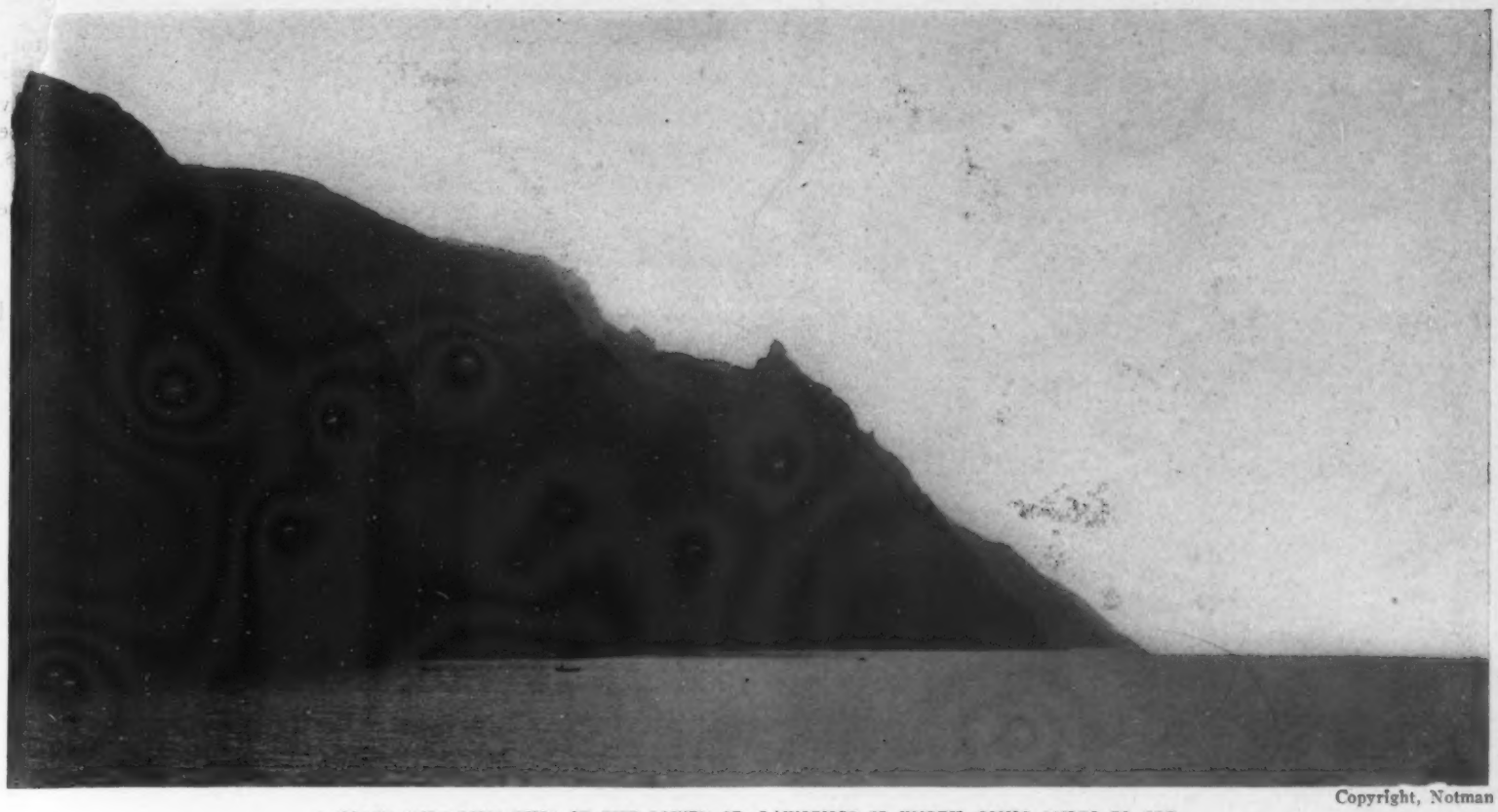


FIG. 2.—CHART SHOWING SPEED PER HORSEPOWER OF SOME OF THE FASTEST BOATS



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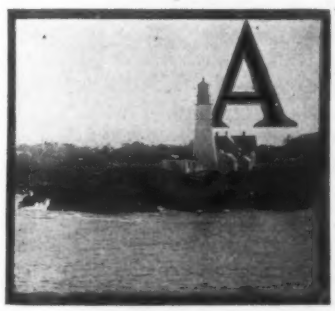
A COAST LINE LIKE THIS OF THE LOWER ST. LAWRENCE IS WORTH GOING MILES TO SEE

Some Possibilities for the Summer Cruise

Out-of-the-Way Trips of from 1,000 to 2,000 Miles Possible in the Usual Summer Vacation With the Modern Power Cruiser

By H. S. LAWRENCE



A WOULD-BE wag once said that boating without cruising was like eggs without salt. While it is not on record that this was the same man who penned the appreciative little ditty:

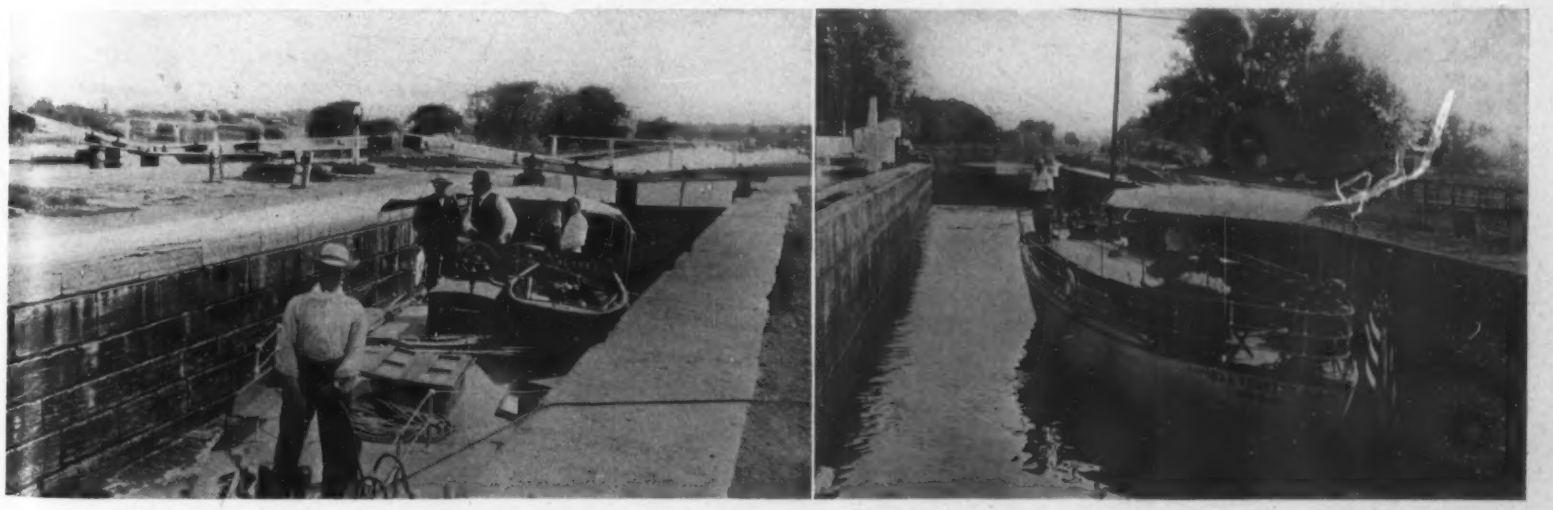
"How sweet in distant ports to ride
At anchor on the evening tide;
To row ashore, fresh stores to buy,
Of ice cream, cigarettes, and pie,—"

and so, *ad infinitum*, their sentiments were evidently the same.

One of the strongest incentives for owning a boat lies in the possibilities it offers for cruising, not only over the week end or occasional summer holiday, but for longer trips, with that keenest of all pleasures, exploring strange waters in your own craft.

Yet, as a matter of fact, once they become possessed of a suitable craft, boat owners do not, as a rule, begin to get the most out of it that they might; or to take advantage of the cruising possibilities that such a boat affords. They are too content to stick around home waters, running over to some convenient, if timestale, harbor, to lay over night when they get a chance; and they feel that they have accomplished a feat equal to Drake's voyage around the world if they get a hundred miles from home during the season.

Since the coming of the really efficient power cruiser, with its properly designed hull and reliable engines, the radius of yacht cruising has been increased almost indefinitely, and trips that for-



EVEN "CANALLING" HAS ITS INTERESTING AND PICTURESQUE SIDE

THE CHARM OF GEORGIAN BAY SHOULD, WHEN ONCE KNOWN, CALL THE SALT-WATER YACHTSMEN AS STRONGLY AS IT DOES THOSE OF THE GREAT LAKES

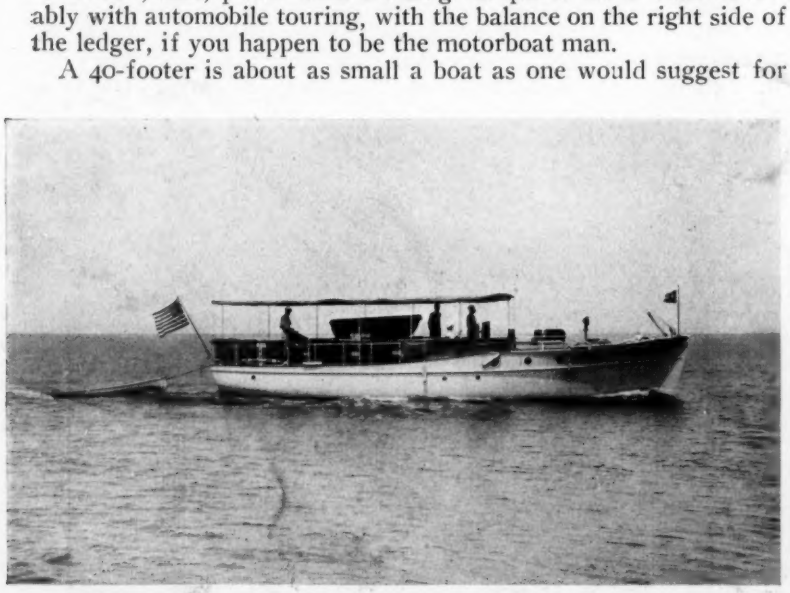
merly meant practically a whole summer in the accomplishment are now possible with even a limited vacation. Of course, the matter of time is one of the vital factors in planning any cruise, but even with the two or three weeks that the average business man gets, much more is possible than he realizes. For instance, even allowing for the ordinary delays, a round trip of one thousand miles is possible in a two weeks' cruise, only running in daylight, if too much dallying is not done on the way; while two thousand miles can be accomplished in from 30 to 35 days, including a number of delays for laying over at various points. With the average cruiser from eight to twelve miles an hour can be counted on, except during extreme weather conditions, which are infrequent in the summer, and 80 to 100 miles is not a hard or tiresome day's run, while with the faster boats even more is practicable.

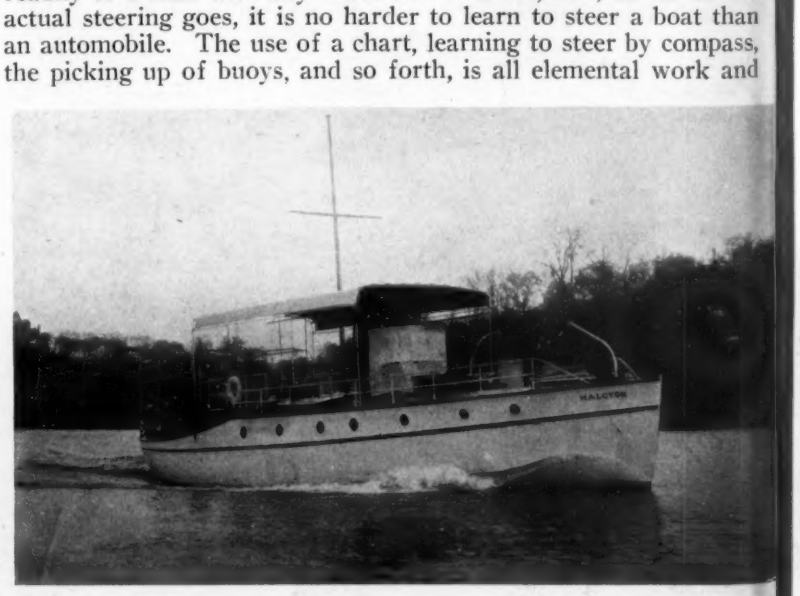
The cruising possibilities are thus almost as great as are those of touring in a motor car. Long trips can be made more comfortably and with a greater variety of experience by the power boat. There is no hunting up of hotels to be done at night and the average cruiser of over 40 feet in length will furnish just as comfortable sleeping accommodations as the average country hotel. In fact, after a long day's run, with the charts, parallel rulers, and taffrail log stowed away below, the anchor down in a snug harbor, with the Shipmate or Primus stove giving forth appetizing odors from the galley, the real pleasure of the day has but just begun.

In cost, also, power-boat cruising compares more than favorably with automobile touring, with the balance on the right side of the ledger, if you happen to be the motorboat man.

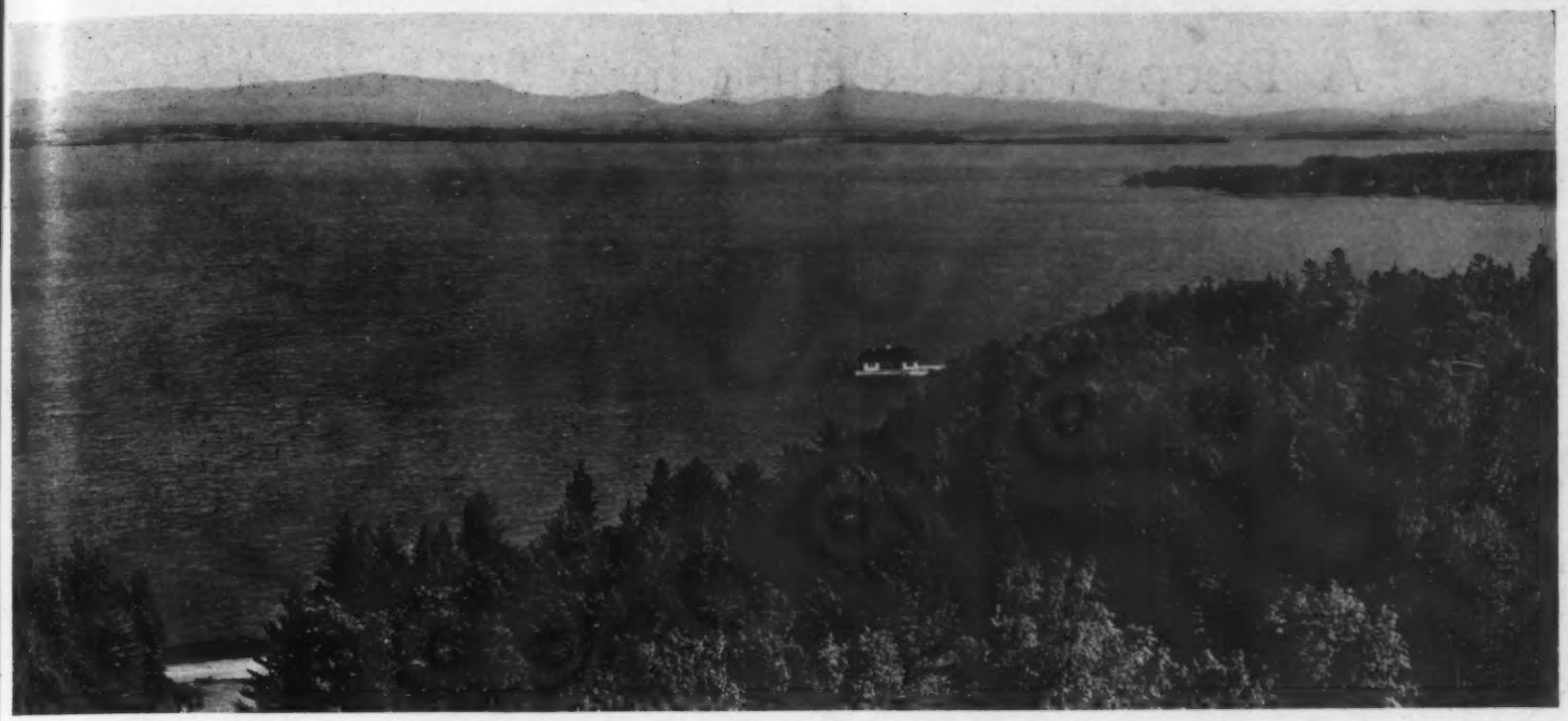
A 40-footer is about as small a boat as one would suggest for a long trip with several in the party, and from 40 to 60 feet long is the ideal size for the cruiser. The smaller size can be bought from $3,000 up, depending, of course, on where the boat is built, the power, and so forth; while the larger size can be had for from $8,000 to $9,000 up (I am speaking, of course, of new boats, those that have been used for a number of seasons being subject to a substantial reduction from these figures), and this is no more than a suitable touring car would cost. As regards the cost of operation, the power boat shows considerable advantage over the touring car, considering the fact that there are no hotel and garage bills to pay. A 40-footer is a small enough boat to be handled without a paid hand, if desired, and yet is large enough to carry a "marine chauffeur" if the owner does not want to do all the work himself. Even for the larger size mentioned, one paid hand would be sufficient if the owner did his own navigating and handling, or unless he wanted an additional man to do the cooking, though as a rule on a one-man boat the paid hand expects to cook as well as to attend to the other duties.

The problem of navigating on inland or coastwise waters, so far from being one to deter a boatman without much experience, is one that should add immeasurably to the pleasures of any trip. It is true that boat handling cannot be "book taught," and that the actual handling of the craft must come from experience; but the necessary experience in handling a small motorboat comes readily to a man with any "boat sense" at all, and, as far as the actual steering goes, it is no harder to learn to steer a boat than an automobile. The use of a chart, learning to steer by compass, the picking up of buoys, and so forth, is all elemental work and





FIFTY-FOOTERS SUCH AS THESE MAKE IDEAL CRUISERS. WITH A WIDE RADIUS OF ACTION THEY OFFER ALL THE COMFORTS OF A SUMMER HOME AT A MODERATE COST FOR OPERATION, ONE "MARINE CHAUFFEUR" BEING SUFFICIENT PAID CREW



LAKE CHAMPLAIN, 110 MILES LONG, AND SNUGGLING BETWEEN THE GREEN AND ADIRONDACK MOUNTAINS, IS WITHIN EASY REACH BY A SMALL POWER CRUISER, YET IS SELDOM VISITED BY SALT-WATER BOATS

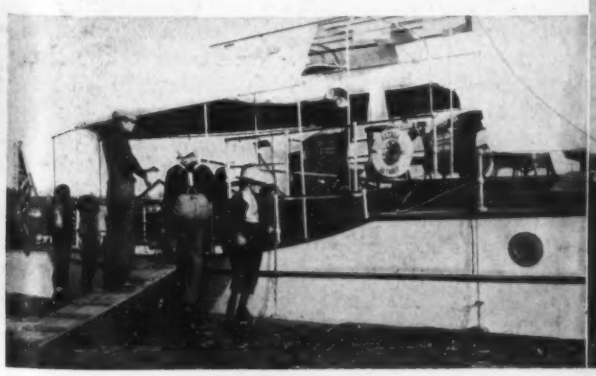
very little practice in it gives one a feeling of confidence that makes the rest come rather easily, if he possess judgment and coolness. One paid hand to look after the engine, and to do any cleaning, is more conducive to a successful cruise, by reason of his doing the work that is not particularly entertaining, than on account of his help in navigating the boat.

So much for the boat itself. Now as to the cruising possibilities for the summer. During the warm weather, naturally the boat owner wants to go northward for his cruise. If located anywhere on the Atlantic Coast from Philadelphia to Portland, there are many different routes open to him. While some of them call for a certain amount of canal work, this should prove no drawback but rather an advantage, "canalling" for two or three days being particularly interesting. With a 15-day trip such as is embraced in a two weeks' vacation, a trip to Lake Champlain, the St. Lawrence River and either eastward to Quebec, or westward to the Thousand Islands, is a possibility and only calls for one day and a half of canal work each way, including Richelieu River between Champlain and the St. Lawrence. The run to Troy would not take more than two days, and it can be made without trouble in a continuous 20-hour run if necessary. Lake Champlain is only 110 miles long, and can be made easily in two days, going up one shore and down the other, with ports and harbors every few miles. This would still leave a week for the St. Lawrence, and with a boat that can knock off from 70 to 100 miles a day a good deal could be seen in that time. With a month or so at his disposal one could stretch out the voyage to the eastward to the mouth of the St. Lawrence around Gaspe Point, skirt the Gulf of St. Lawrence, through the Northumberland Straits and the Gut of Canso, down the Nova Scotia Coast, across to the Maine Coast, and thence home; a voyage all told of 2,000 miles in round figures, which could be made easily in 25 full "steaming" days.

If the western route is chosen the voyage back could be made by way of Lake Ontario, the Oswego and Erie Canals, to Albany, with every mile of the route opening up new and picturesque scenery with a variety that is almost unknown to the salt water sailor. Through the Rideau Lakes and Ottawa River is also a trip full of interest that only adds a few days to the voyage.

With a 30 or 35 days' trip the Georgian Bay of Lake Huron is an easy possibility, and is a trip that almost no salt water yachtsmen have taken. The principal drawback is the rather longer canal trip, but this can be broken by going through the Oswego Canal and River from Syracuse to Oswego, down Lake Ontario to its western end, and through the Welland Canal to Lake Erie, which reduces the total canal trip to about three days each way. The Georgian Bay trip by way of Lakes Ontario and Erie is only about 2,100 miles for the round trip. Once on the Great Lakes, however, it is hard to say where to stop, and the cruising possibilities in the northern waters as far north as Mackinac and west to Duluth (although Lake Superior is not considered particularly good cruising ground on account of the scarcity of harbors) are inexhaustible.

In the next issue the Maine, Nova Scotia and New Brunswick possibilities will be described, with the charm of the Maryland "Eastern Shore," where one may cruise for years and still find new harbors to visit.



INTERESTED VISITORS

WATERWAYS OF NORTHERN NEW YORK

WHO SAYS MOTORING CAN BEAT THIS?

A Deep-Water Cruise in a 50-Tonner

Being the Account of a 12,000-Mile Traverse in a 54-Foot Ketch

By A. E. DINGLE

BILL O'LADING

I DO not propose to get off the ancient wheeze of "laying no claim to literary merit"; the lack will be quite apparent to the reader who elects to accompany the Gladys on her long cruise.

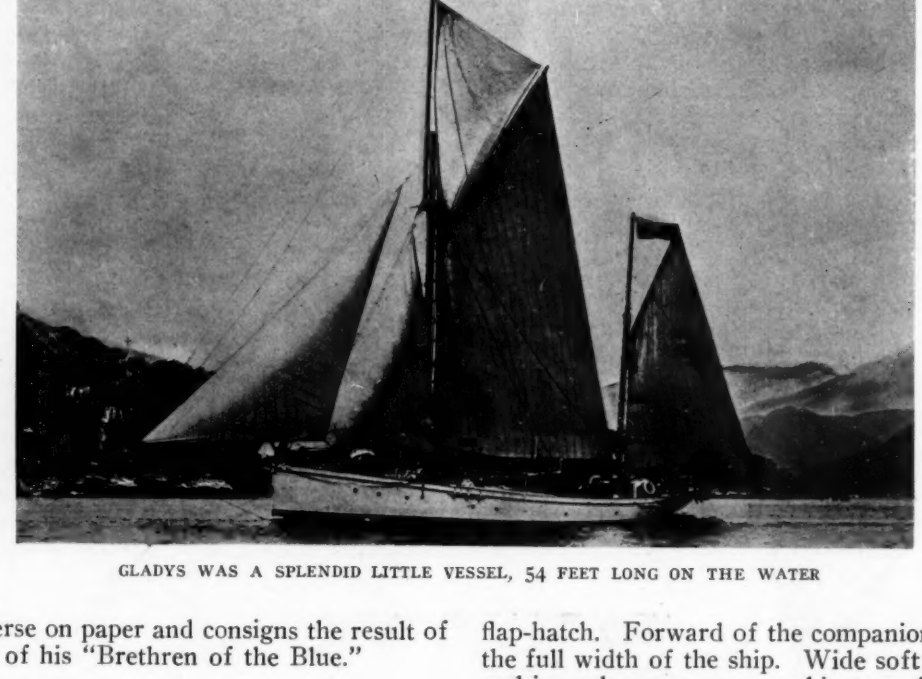
It is, however, to be hoped that the plain, unfrilled account of what was really a remarkable trip for a small yacht with a small company will give to the Corinthian sailor who signs on for the voyage some small degree of the pleasure in the reading that the writer and his shipmates experienced in the actuality.

While some descriptive matter touching upon the places visited has naturally, and necessarily, found a place, it has been the earnest endeavor of the author to avoid, as far as possible, filling these pages with a superabundance of "Guide-book Stuff."

Quite the majority of books purporting to be logs of yachting cruises have far too much space devoted to the shore end of the business, and far too little to the stretches between ports, which to the amateur sailor—unless he be but a rocking-chair skipper—should prove the more interesting portion.

Also, the old style of writing up a cruise in log form has been dropped, the monotonous recital of day after day, and date after date, has been eliminated, and the cruise set down in a continuous narrative.

The true master tar may gather from this modest work that it is not at all necessary to own a thousand-ton yacht in order to cruise in deep water; and it is in the hope of fostering deep-water sailing among Corinthians that the author resails the traverse on paper and consigns the result of his effort to the good will of his "Brethren of the Blue."



GLADYS WAS A SPLENDID LITTLE VESSEL, 54 FEET LONG ON THE WATER

CHAPTER I

"The wind is as iron that rings,
The foam-heads loosen and flee;
It swells and welters and swings
The pulse of the tide of the sea."
—*Swinburne.*

To the man born with a plentiful sprinkling of salt in his veins yachting only reaches its top note of perfection as a sport to the hard thrust of a true breeze in faultlessly cut and cleverly trimmed sails. To the votaries of such a sport there is nothing so appealing as the long, off-shore traverse with (as Kipling puts it) "the long-drawn thunder 'neath the leaping figurehead."

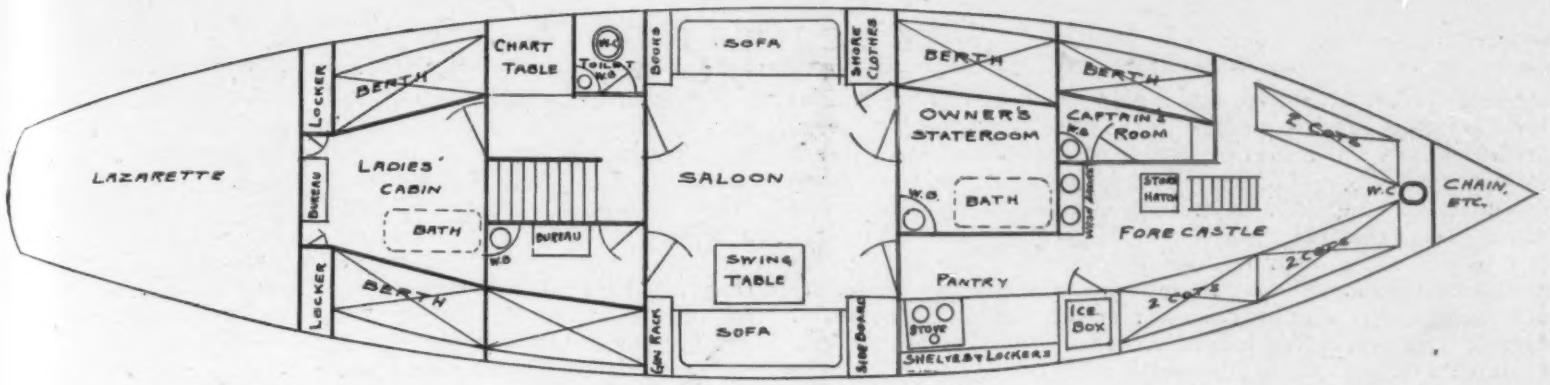
Take a fifty-footer with wholesome lines and good beam, plenty of body under water, and a snug ketch rig, and the world is yours. You may choose coasting or ocean cruising; it will be immaterial; your barky will carry you safely, and give you all the sport old Ocean ever affords his most intrepid Corinthians.

Those have been my sentiments ever since I was big enough to handle a ten-inch waterline toy sloop. Through many years of voyaging that opinion remained unshaken, and it was with unabated devotion to the beautiful windjammer that I conceived the cruise which forms the *motif* of this log.

I had broached the subject to a pair of cronies, over a crackling club-house fire, of a cruise which should take in the Canaries, Madeira, the West Indies and Bermuda, with little hope that it would develop into anything more than a good topic for the winter evenings. Contrary to expectations, the suggestion was eagerly adopted, and our plans rapidly assumed concrete form. A splendid little vessel was about to go out of commission round in Dartmouth harbor, and negotiations for a charter were opened with her owner. The owner was willing, the ship filled every requirement, and terms were quickly arranged to the satisfaction of all parties.

The cabin lay-out was, probably, not perfect. It was, however, very good, and the accompanying diagram, while not strictly to scale, is very nearly correct. Aft, there was a large space used for sail-room, deck gear, bo'sun's stores, etc. A small, round hatch direct from the deck led to this. The main companion led down to a fairly large passage way, to the right of which was a state-room on the starboard side. On the port side was a toilet, with wash basin, and a chart table with drawers. Immediately abaft this space was the big double state-room, formerly the ladies' saloon; in it were two big berths and two ample wardrobes. A bath was let into the floor and covered by a flap-hatch. Forward of the companion the main saloon extended the full width of the ship. Wide soft berths ran along each side, and in each corner was a cabinet or sideboard. One of these we altered into a gun-rack, one was a book-case, one was used for a dining-room sideboard, and the other was altered to make a stowage for shore clothes. Forward of the saloon, to port, was another cabin, having a wash basin in one corner and another bath under the floor. To starboard, opposite this state-room, was the galley and pantry, and the small captain's room lay next to and forward of the port-side state-room. The rest of the ship was crew's quarters, entered by a hatch just forward of the mainmast. In it were cots for six men—we'd but two paid hands, so they were not crowded. The crew's toilet was at the extreme end of the forecastle, at the forward bulkhead, and two wash basins stood against the fore partition of the port-side state-room. Under the pantry the stores were kept, and the store-room extended right under the fo'cs'le. A big ice-box stood between the galley bulkhead and the after berth in the fo'cs'le, far enough from the stove to be free from undue heat, but handy to the pantry, tables and lockers.

This little ship was apparently built with too many sub-divisions.



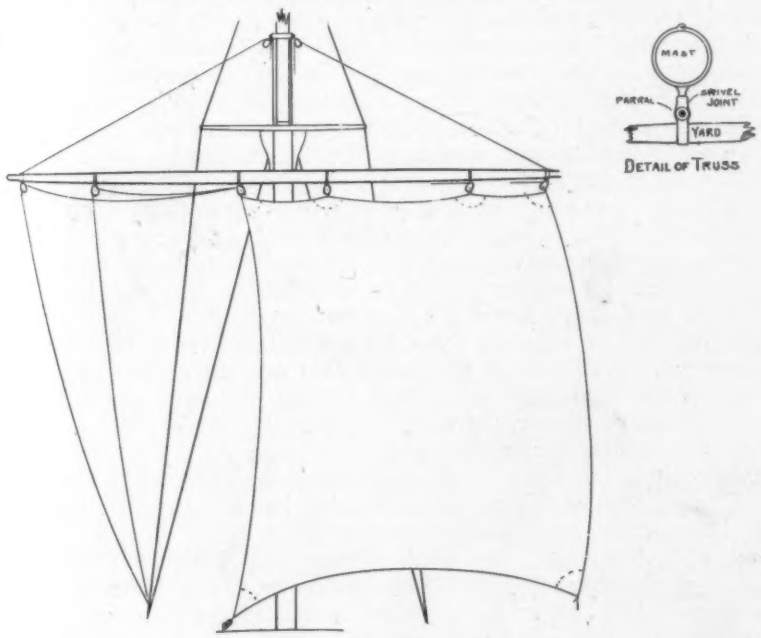
CABIN PLAN OF THE GLADYS

Her saloon was not as large as it should be in such a boat, and the cabins might have been bigger by cutting out at least one of them. The owner, however, liked a large party, and gave everybody, as far as possible, separate rooms. As the boat was only chartered, we made no permanent alterations.

When we chartered the ketch she had just come in from a winter cruise down the Mediterranean. She was therefore in good shape as regards inventory, equipment, etc. Her cabin accommodation was ample—too much for our actual needs—and we used one of the small cabins as a hanging room for clothes. This we did by taking out the bunk, installing a big chest of drawers, and fitting up long racks of clothes pegs under the deckhead. As the writer was navigator, the captain's room was the one used as a coat-room.

In fitting out, the water tank capacity was increased to one thousand gallons. Stores carried were approximately: 1,000 pounds of cabin bread (hard tack); 700 pounds, in all, of salt beef and pork (very best grade procurable); 250 pounds preserved meats and fish (canned); 350 pounds flour; 100 pounds canned vegetables; 400 pounds dried peas, beans and lentils; about 100 pounds rice; 100 pounds canned butter (this was found much too much); fuel for galley, about one and a half tons of coal and coke—mostly coke. Sugar, tea, jam, marmalade, and molasses were taken along in small quantities, the bulk of these articles being picked up in the islands.

Details being agreed on and all hands being ready to start fitting out, Gladys was hauled on the slip and some of her copper renewed in preparation of her long jaunt in warm latitudes. Rigging was overhauled and replaced with new wherever a suspicion of weakness showed itself; sails subjected to the same searching examination, and ballast snugly stowed. Some ballast was removed altogether to make room for the big pile of stores which soon began to arrive on the dock.



DETAILS OF SQUARE SAIL

She had no square sail—though a big spinnaker—so we had her fitted with a yard. This was sent up like a ship's lower yard; with the exception that the parral was fitted round the mast with a clamp fastened on the after side. It was a simple matter to unfasten the band and send down the yard if necessary. As far as I remember, we did not have to send the yard down on deck until it was unshipped for good on the passage home. In the few big blows we had, taut lifts and braces seemed to give the yard all the steadiness required. The square sail was rigged to hoist on four halliards. A block was hung at each yard-arm, one in each quarter, and two blocks, close together, one each side of the parral. The sail was hoisted on the suitable yard-arm, as per diagram. The halliards were made fast at the fife-rail; hauling parts led along the yard to check blocks under the hounds, and thence down to the mast pin-rail. The tack led through a fairlead in the deck and made fast to the deck cleats. The sheet led aft round the shrouds; the braces made fast in the rail along the quarter. Topping lifts came down the mast to the mast pin-rail.

Many times during the cruise we patted ourselves on the back over our foresight in substituting the handy square sail for the more "yachty," but far too unwieldy, spinnaker. We could never have carried the big boom sail in lumpy seas on deep-water runs, while the squares'l was aloft and pulling like a dragoon whenever the wind was fair, and anything less than "6," Beaufort scale.

The crew were ready to hand: Dick Morley, keen Corinthian yachtsman and good fellow; Will Nason, tip-top sailor, an old Navy man, and solid as reinforced concrete; the writer, just a plain, deep-water "bug"; and the old reliable companion of many cruises in waters deep and shoal, Jack Bayne. Bayne had been our paid hand for a good many seasons, and could be counted on absolutely in anything that might come along, whether threading a swashway through a shoal, or holding a running ten-tonner before a howling nor'easter. These four, with the addition of a youth to do the cooking and otherwise relieve us of the little unpleasantnesses inseparable from amateur yachting, were the whole crew. Our ship was the ketch yacht Gladys, fifty-four feet on the water-line, fifteen feet beam, and nine feet draft, and articles called for a cruise not to exceed twelve months, and to take in as many of the islands of the East and West North Atlantic as time permitted.

In two weeks from the date the cruise was decided upon we saw the last package stowed away and the last trunk and grip emptied of their contents into the roomy lockers and sent ashore for storage. At ten o'clock on the morning of April 16th, Jack got busy stripping sail covers off, and the boy, whom we dubbed "Skimps" for convenience, left the preparation of our first sea meal to lend a hand on the windlass. A friendly tug gave us a pluck outside clear of the Mewstone, and tooted a hearty good-bye on her whistle when we caught the fresh easterly breeze and cast off the towline. With mains'l, mizzen, fores'l and jib, with a small deep-water tops'l, our little ship was put on the first leg of her long traverse, seven and a half miles to Start Point, the course sou'west.

Leaving Gladys to the care of Bayne, we three hardy amateur mariners went below to "quaff a hooker" to the success of the cruise, and incidentally to see what promise Skimps gave in the way of culinary accomplishments. Even now we refer to that first lunch with bated breath as an extra and unforeseen peril of

the sea. Whatever Skimps might hold in the way of possibilities for the future, his first essay with the little "Dreadnought" stove produced such a nondescript sample of provender that I feared for his life. We dined on shore-bread, cheese and pickles, washed down with bottled beer. A trifle like that, however, was not to be allowed to damp our spirits, and full justice was done to such fare as we had. Then relieving Bayne, we sent him below to his meal with the advice that he enlighten Skimps as to the futility of trying to cook with his oven at a temperature of a handful of degrees oyer zero. We judged from sundry mysterious sounds floating up through the fo'cs'le scuttle that Jack delivered our message, with views of his own added, in such terms as even Skimps could not fail to understand.

Start Point was abeam at two o'clock, and the ketch was showing a good turn of speed. The breeze was fair, not too heavy for all plain sail, and we had every prospect of getting up to the Lizard by midnight. We were to take our departure from the light. A leg of three miles, west a quarter south, was made to Prawle Point, and then our course was west a quarter north, fifty-nine miles to the Lizard. This was a run, dead before the wind, and with boom off to starboard, the squaresail went aloft on the port yardarm, and Gladys settled down to a splendid run, throwing off a bow wave like a cup racer off Sandy Hook.

Now, with the Eddystone rising over the starboard bow, we arranged watches, and portioned out the work to make the best use of the small crew. Skimps was put in charge of the galley and cabin, and was, of course, the idler of the company. He would be the only man to have all night in, and he was given a strong hint by old Jack Bayne that there were hungry men to provide grub for, and he would do well to limber up a bit and improve on his first attempt. The four men for watch duty were divided into port and starboard watches, regular shipboard style. Mate Nason and Jack Bayne took the port, and Morley and the skipper the starboard watch, watches to begin on taking our departure from the Lizard.

The yacht had been smoking through the short seas at an eight-knot gait since the squaresail was set, and half the distance on the last shore leg was covered by six o'clock. Sea appetites had already set in, and when Skimps appeared aft and announced that supper was ready, and that he had a little surprise for us below, all hands were quite willing to be surprised. Skimps was right about that surprise. For by some mysterious means, helped, we suspected, by Bayne the old reliable, he had managed to produce a thoroughly appetizing banquet. Fried filets of fresh soles, delicately browned potatoes, lamb chops with peas, cheese and salad, topped up with real coffee—the luncheon horror was consigned on the spot to the limbo of forgotten things. Be sure, we did not omit to let Skimps know that progress along the same lines would be not only appreciated, but very conducive to his own comfort and immunity from the wrath of Bayne. Which latter consideration seemed to weigh quite a lot with our noble chef.

We Take Our Departure

Lizard lights—there are two in range, fixed white electrics—are visible at twenty miles, and all hands were on the lookout from the time the side lights were put in the screens. Shortly after seven o'clock we saw the bright shaft of light in the western sky. The squaresail was taken in for the night, and at half-past eight a four-point bearing was taken to get the distance from the light for a departure. We were six miles distant when the lights bore north, and from here our course was laid sou'west, with all the Atlantic before us.

We might have kept the land aboard longer had we wished, but the voyage had fairly started now, and the Scilly Isles to leeward were not desirable neighbors. Our best course was to get out to sea as soon as possible, out of the busy steamship lanes, if we desired a comfortable night. Midnight found our little ship snugged down to four lowers and eating up the miles in good style. Everything had been made shipshape and Liverpool fashion, so the mate's watch, Nason and Jack, took a last look around at the numerous ships' lights in sight, and turned in, leaving the deck in charge of Dick and the skipper.

Far from lonely that watch proved. We were right in the fairway for outward and homeward bound vessels making or leaving the Channel, and before one bell we had slipped past a big four-masted bark beating up against our fair easterly and were within hail of half-a-dozen steamers showing a blaze of light from double or triple tiers of portholes.

Along about three o'clock the breeze, which had held true as a hair at east for twelve hours, chopped round to the south'ard and freshened. Occasional lumps of the Atlantic lopped over the weather bow, which was not at all conducive to comfort, so, having the wide ocean to leeward and not being responsible to an owner for a smart passage, the yacht was swung off to bring the wind on the quarter. Gladys responded like a thing of life, and settled down to her steady gait with dry decks and easy motion again.

The watch was now almost up, and while Dick made coffee and roused the relief from their dreams of eight hours in the bunk—now but a dream—the skipper experimented to find what the yacht would do in the way of steering herself. By trying more or less helm for a few moments, it was found that she would hold her course if the wheel was put in a becket with a spoke or two of weather helm. That proved many times a mighty useful thing to have established when some little thing or other necessitated either leaving the wheel or calling the watch.

The mate's watch proved real sailors, and relieved the deck on the stroke of the bell. Dick and the skipper dived below to their Mocha and Java, leaving the yacht in sound hands, and turned in nowise disturbed by the weird noises emanating from the lair of the cook in the fo'cs'le.

Skimps surpassed himself again when he came to rouse the skipper's watch for breakfast. He neglected to inform the skipper of the fact that he had filled the bath tub sunk in the cabin floor. Poor skipper! Like a man he sprang out of his bunk in answer to the hail of "Seven bells, Cap," and promptly flopped into the tub, pajamas and all. Dick showed his appreciation of the stunt by grinning like a Borneo ape. He, lucky bargee, was on the lee side, and had to climb up to windward before *he* could fall into the hole in the floor. Such a shock, however, did no material damage, and only effectually awakened the skipper to the consciousness of a heavenly aroma of grilled ham and eggs, mingled with the bouquet of fine grade cabin coffee. Skimps had certainly profited by his early experience, and was now turning out food fit for hardy sons of old Father Neptune. The keen, bracing Atlantic ozone rendered unnecessary any other appetizer when either watch sat down at the little swing table.

The log slate showed that we had made a very steady seven and a half knots through the two watches since midnight. During the forenoon the breeze slackened a trifle, but with the addition of the jib-topsail and a mizzen staysail the taffrail log soon resumed its cheery hum, and when noon sights gave us a latitude, with which to work up the nine o'clock observation for longitude, we had made good a course of sou'west by west, and a distance of ninety-eight miles from the Lizard.

Madeira was our first port of call, barring accidents, and the course by Mercator sailing worked out south 24 degrees west, one thousand and seventy miles. Just far enough to put a polish on our copper. Unless our good fairy deserted us we might expect to make a land-fall in about ten days more. Frequently during the day we were in sight of ships, both windjammers and steamers; it seemed incredible that we should ever sail an expanse of ocean undotted by a single speck of sail. When the deck was relieved after mid-day dinner, there, right ahead, and apparently making the same course as ourselves, we made out a big clipper, carrying every stitch that would draw, and standing up as stiff as a house.

The mate said he had been watching her for an hour, and we had not picked up on her to any extent, but the breeze was smartening all the while, and soon it was evident that we had the heels of the square-rigger. She was either deeply laden or sluggish, or not at all as fast as most of her modern sisters, or the Gladys would never have read the name painted on her bows. Our little ship snorted along as if a torpedo boat had our towrope, laying down in the harder puffs until the lee rail smashed the seas

"TWO HOURS LATER THE LAND WAS CLOSE ABOARD, AND HORTA, FAYAL, RIGHT OVER THE BOWSPRIT"

into half-acre patches of froth, and in an hour had appreciably lessened the distance.

The old saw, "a stern chase is a long chase," held as true with us as ever it has, and though we were making nine knots to her six or seven, the watch was changed again before we raised her sufficiently to make out through the glasses that she was the Brilliant of Christiansund. Nason and the skipper remembered her as one of the smart old Australian wool packets when she belonged to a British firm in former years. Now she had evidently been cut down in rig by her new owners, for she carried no lofty royals, and it seemed that her masts and yards had been shortened all round for economy in working; which perhaps accounted for the fact that we had been able to overhaul her at all.

At six o'clock we were abeam of her to windward, about two cables distant; then it was plain that she was coal laden—and deep, too. Her decks looked deserted, nobody considered us worth hailing, and we would have only wasted our time trying to speak her. So, simply entering her in the log as "sighted," our light sails were doused and we resumed our cruising rig of mains'l, mizzen, fores'l and jib, with small working tops'l; after which supper was announced and received our undivided attention.

Our First Breeze

At sunset that evening the western sky was heavy with dark clouds, but the glass was steady enough so we did not shorten sail at all until towards midnight. Then the wind freshened considerably and we had our first rain. And such a rain!—a steamy, tropical deluge. With the rain came a smart squall, and all hands were needed to snug down. A sharp half-hour's work we had to get the yacht shortened down to double-reefed mains'l, mizzen, and fores'l. Then she stood up better and kept her decks dry, only for the rain, and we could still lay our course without burying our nose in the seas.

Towards morning the breeze increased to a stiff half-gale. Mains'l was stowed altogether, and Gladys stuck to her work for a while under mizzen and fores'l only. But she made heavy weather of it, and before eight bells the fore-sheet was hauled to windward and the yacht hove to, when she at once took up her own most comfortable position, bowing the seas and riding like a duck. While that breeze lasted poor Skimps held no sinecure. His little galley might have been on a scenic railway car for all the success he had keeping fire in or pots on it. Indeed, Skimps himself, though brought up on a Dogger Bank trawler, looked and felt so blue and yellow that we could not have fancied his hash even if he had been able to prepare it. So, as usual in a tight place, old Jack turned to himself and fixed our slumgullion for a spell.

Except for the squalls of wind and rain, which were very heavy, the gale didn't amount to anything very alarming. We were snug enough hove-to, and dry below decks, but oh Lordy! how that boat did dance. Dickens' description of his cabin on an Atlantic liner in a blow was a joke compared with the gymnastics our Gladys performed. Her motion was easy enough, in a way. It was easy enough to do anything but stand up, and the constant rattle and rumble from below bore testimony to the condition in which we should find all our movables when we went to look.

No noon sights were got that day, nor did the wind moderate enough for us to get on our course until late in the afternoon. Then the breeze dropped slightly, though still blowing strongly from the south'ard, and we got the mains'l up with two reefs and let draw the fore-sheet, laying a course west-sou'-west. A huge Cape liner came foaming along just about light time, and her hurricane deck rail was lined with passengers, no doubt wondering what kind of crazy people we were to get so far from home in such a ridiculously tiny craft. To her we made our number, and the officer on the bridge acknowledged the signal, courteously writing a message on his blackboard, which we made out through our glasses to read: "Bon voyage! Will report you all well."

The strong southerly breeze seemed as if it would never shift, and every knot made was to leeward of our port. When we had run for twenty-four hours on a course having far too much westing in it for Madeira, the skipper called a consultation. After very little discussion all hands agreed that we could make better time to the Azores, and we could easily take in Madeira after that. So with Horta, in Fayal, as a new objective our ship was headed sou'-west, close hauled at that, for a 600-mile stretch to the Portuguese islands.

Though these islands are more than 900 miles distant from the Portuguese coast, they are not colonies of that country, as might be imagined. They are considered as a constituent part of Portugal. A Portuguese seaman named Cabral stumbled upon them in 1431, but they received no further attention until 1466, when some Flemish exiles saw their possibilities. The population received spasmodic impulse by the immigration of Moors and a few Portuguese, and the little community grew and flourished. In the year 1900 the trade of the islands had topped the million-dollar mark.

This, however, is going off the course. To get back to our traverse, what mainly concerned us was the fact that we could replenish our fresh stores there, take in fruit in abundance, and good water. The islanders are largely occupied in fisheries, and it occurred to us that we might possibly raise some kind of finny game ourselves by keeping a mackerel line over the stern. Skimps was put on the job at once, and told to rustle up some of his Dogger Bank experience, to the end that we might have a change of diet on the cabin menu. And right well he responded. Trolling, or skimming, with a piece of rag tied round the hook on a stout

line, in half an hour he had caught a mess of fine Spanish mackerel, enough to give all hands a good supper and leave sufficient for breakfast. And cook! We freely forgave him on the spot for any shortcomings in the galley earlier in the cruise, when he placed on the table his fish supper, cooked as only a fisherman can cook fish.

We saw our first porpoises and flying-fish on the morning after our mackerel haul, half a dozen of the flyers diving with a bump into the belly of the mains'l and falling on deck. We were well provided with fresh fish with no trouble at all. There are very few sweeter fish in the sea than fresh flying-fish, and they were plentiful around the Western Isles, scarcely a day passing without a mess of them offering themselves for our delectation.

The yacht was keeping up her steady gait and we had not broken tacks since getting our anchor. Our worst day's run had been 160 miles, and on that day we were hove-to four hours out of the twenty-four. All hands, therefore, were keeping in a good humor, and not a jar, except that of the sea, tended to cause friction.

Pico Peak has an altitude of about 7,300 feet, and if the weather continued clear we might expect to sight the land from the deck at about sixty miles distance. Therefore, on the third day after changing our course, all hands were buzzing around like a swarm of bees, now aloft, now on deck, standing by for a turn at the long telescope, each hoping to be the first to make out the land. The honor was reserved for Skimps. When his turn came to peek through the tube he stuck it inside his shirt and shinned up the mast-hoops like a monkey. He was safely astride the cross-trees before old Jack Bayne recovered from his open-mouthed astonishment at his impudence. As soon as the glass was steadied alongside the topmast-heel, Skimps hailed:

"I can see it! I can see it!"

Being asked for more definite information, he reported: "High peak, about a foot out of the water, dead ahead."

Working up the reckoning from noon, we decided the land must be Graciosa, some 37 miles N. N. E. of Pico. Having an altitude of only 1,300 feet, it could not be more than 40 miles away, as by this time we could just make it out from the deck with a glass, a speck on the horizon. We could not hope to make the anchorage in daylight, and the islands are not too safe for dodging around in the dark. Sail was reduced to the four lowers and we kept our course until supper was cleared up, when the yacht was hove-to on the port tack, with the land abeam and about fifteen miles distant. Sea watches were not disturbed, and when the watch came on deck at four o'clock A. M., the ship was put on her course again, daylight being due in about an hour. Leaving word to be called at six o'clock, the skipper turned in for forty winks. Two hours later the land was close aboard and we were smoking along in our best style under a full press, with Graciosa abeam to port, Pico Peak on the port bow, and Fayal right over the bowsprit.

An early breakfast gave us a full muster on deck by the time we were up with the N. W. end of San Jorge, and the Gladys was stripped of her gaff-tops'l and jib-tops'l for the run through the narrow, and indifferently marked, channel between Pico and Fayal. Our chart was a recent one, showing all additions from new surveys, but even with that we almost took the barnacles off a big wicked-looking boulder just before turning into Horta roadstead.

It was with some degree of relief that we ran up to the anchorage, hauled down the jib, and shot into the wind, letting go the killick in ten fathoms and a flock of bum-boats, just nine days out from Dartmouth.

In the June instalment of A DEEP-WATER CRUISE the Gladys touches at Madeira, the Canary and Cape Verde Islands, and starts on her long traverse across to the West Indies

Kanawha's Cold Weather Cruise

THE New England coast is not a particularly attractive place for motor boating when the early spring gales are sweeping over Cape Cod, and the following log of a trip recently made by the 75-foot power cruiser Kanawha from West Mystic, Conn., to Brunswick, Me., makes interesting reading. The Kanawha had been at West Mystic to have two new 6-cylinder, 65-75-horsepower Holmes motors installed. The work was finished late in March, and on April first she started for her home port in charge of Mr. George P. Spencer, general manager of the Holmes Motor Company, West Mystic, Conn.

The weather had been unusually cold all the spring, with boisterous winds, and the trip promised to be anything but a summer cruise. In fact, Mr. Spencer writes that he felt quite salt after the voyage, and for once he got all the pleasure that he cared for in standing at the wheel twelve hours a day, with rain, sleet, snow and high winds most of the time:

April 1, 1914, 7.45 A. M. Leaving Mystic Dock, Conn., bound for Brunswick, Me. Wind N. E., fresh; 8.45 A. M., Watch Hill abeam. At 10.40 A. M., Point Judith abeam, bearing N., Wind N. E., increasing. Vineyard Sound lightship abeam at 1 P. M. Wind S. E., heavy and increasing in force. Sea making up, and raining hard; 4.00 P. M., Cape Poge, bearing S. Wind S. E., increasing; raining and hailing. Headed in for Nantucket, where we dropped our hook at 6.45 P. M. Wind S. E., blowing very heavy; raining and hailing, and so dark that you could hardly see her stem.

Remained at anchor over night. Ran into the dock at 8.00 A. M. on Thursday, April 2d. Purchased four barrels of gasolene, and it took us four hours to get it down to the boat and into the tanks. Snowed practically all day, and blew a gale from S. S. W.

Friday, April 3d.—Left Nantucket dock at 7.00 A. M. Wind W., moderate. At 8.50 A. M., Monomoy light, on south end of Cape Cod abeam. Wind hauling N. W. 9.20, Pollock Rip lightship abeam. 9.40, had Chatham lights, bearing west. Wind N., increasing. 10.50, off Nauset. 12.00 M., had Cape Cod (Highland light) abeam, and let her go across Massachusetts Bay for Gloucester, distant 44 miles. Wind N. E., increasing, and snow squalls. 1.00 P. M., Race Point light abeam. Wind N. E., heavy, and snow squalls. At 5.00 P. M. passed in by Eastern Point and anchored in Gloucester. Wind N., blowing very heavy. We remained here at anchor over night and took on gasolene.

Saturday, April 4th.—Leaving Gloucester 6.40 A. M., wind was N. W., moderate breeze. Snow squalls and cloudy. At 9.35 A. M., light on south end Isle of Shoals abeam. Wind N. W., heavy; at 10.40, Boon Island bore E. 12.05 P. M., Cape Porpoise, bearing W. by N. Wind N. E., moderate. 12.45 P. M., Wood Island light. Wind E., increasing. At 1.30, when off Cape Elizabeth lights, wind hauled around S. W., and blew very hard, with fierce snow squalls. At 5.00 P. M. entered the New Meadows River. Wind S. S. W., blowing heavy; raining and snowing. Hunted around for moorings, and when we found them, made Kanawha fast and went to Brunswick, Me., for the night.

During the run, which, for a good part of the way, was under strenuous wind and sea conditions, we averaged, as near as I could work out, ten nautical miles per hour for the entire trip of about 325 miles. We only ran the engines at 420 revolutions, as, on account of being new and not worked down, we did not attempt to run them any higher. While going up the New Meadows on the last three miles of the trip we opened them up and turned over 500 revolutions per minute. The engines ran continuously each day and all day without a miss or skip, which speaks well for a first-trial trip of 32 hours.

The Kanawha should attain, after the engines are broken in, a cruising speed of 12 to 13 miles.

Getting Close to Nature

How a 22-Year-Old Sloop Was "Corrected" into a Useful and Able Little Power Cruiser for All-the-Year-Round Use at the Cost of Little Labor and Less Cash

By EUGENE LENTILHON

WELL, you see it was this way; I have always been a salt-water man, but, with the ups and downs of life, I find myself not in a position at present to keep a "yacht." But I just had to have something to take me around on Great South Bay and its adjacent waters, the Atlantic Ocean, the Peconics and the Sound. In my stable on the farm I had some old carriages that a 1-horsepower automobile had put out of business, when the happy thought occurred to me: Why not sell the junk and buy a boat?

Now, to-day, in this horseless age, it is easier to say, "sell carriages" than to do so; however, at the end of a fortnight I found myself with $50 in cash and no equine equipages. Then began the search for a boat. The hunt took me from Massepequa to Bellport, on the Great South Bay, with the result that I finally got an old Amityville sloop 22 years old that had been rebuilt five years ago. She had a new 6" x 10" keel, new planking to the waterline, was 21 feet long on load waterline, 25 feet over all, 10 feet beam, and drew 24 inches of water. All this could be had for $75.00, and it didn't take me long to rustle the other twenty-five over what I received for the carriages.

Well, with the assistance of a few friends, it did not take me long to cut the mast up for rollers and haul her out on the beach preparatory to converting her into a—what shall I say?—hardly a motor boat, although that is what she really is. My wife calls her the Flatiron Building on a shingle. I named her the Havoc because she looks like ———.

The sail, or rather mainsail, was sold for $5.00, and the jib was cut into an awning for the cockpit.

In looking at the photograph of her, don't be misled by looks, for the Havoc has furnished me with no end of cruising, fishing and shooting, as you will see if you read what follows, which I am writing for the benefit of the "fraternity," that they may gather how much fun there is in life on the water, even if you have to do all the work yourself.

Spring found the boat converted into a high, bluff-bowed cruiser at an expense of less than $25.00 for lumber and material. So, says I to meself: "You've got the boat; now for the engine." Once I built an auxiliary with a 16-horsepower Globe in her, but the engineer ran it, and so I knew nothing about these "kickers." Investigation and inquiries along shore made matters worse, for it seemed to me that there were a hundred "best" engines, with every man that recommended one an agent. So I determined to look over my old YACHTING magazines and pick out the engine that had seemed to have a good record in the long-distance races of the past few years, the only requisite being that it should be a 4-cycle affair. The choice resulted in a 10-horsepower Ralaco, with no recommendations and no agents.

So the engine was installed, and has never failed, in calm, in storm, in the Gut, Fire Island Inlet, or on the edge of the breakers outside of Fire Island. Of course, the minute the shellbacks heard of my purchase there was a running comment of remarks: "Too heavy," "Too powerful for the boat; it'll swamp her;" "A dude machine." Well, I have towed more than one of those fellows home since.

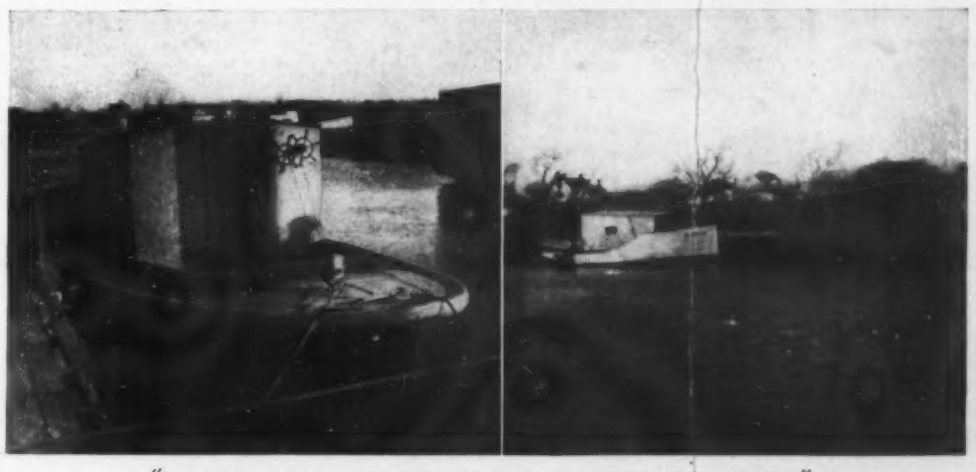
There is frequently good fishing to be had in the channels of the Great South Bay, and I have found Havoc answered all the demands of this service. What greater sport is there than to run out of Fire Island Inlet and skirt along the breakers for the big bluefish, which are often caught weighing 14 pounds, while the city man, in a large hired boat, is "chumming" inside and not getting anything, with "bunkers" at 5 cents apiece, as was the case last summer? Then, if you make a daylight start, and have a gun along, you can always get enough snipe on the meadows for breakfast; but it is absolutely necessary to have your State shooting license with you or else that alert game warden of yachting fame, Harry Haff, is almost sure to get you, with disastrous financial results.

Havoc has a strip of 14-ounce copper a foot above and a foot below the waterline for a length of 16 feet from her stem. And why? Well, you see she is kept in commission all the year 'round, so that I can go over to the beach after cotton-tails, or try for broad-bills, to say nothing of hauling a fyke net that keeps my breakfast table supplied with pan fish, snappers, flounders, porgies and "tommy" cods in season.

A 150-foot seine 4 feet deep is kept on board, so that a mess of whitebait can always be had. And then there is the crab dredge, which comes in handy late in the fall when Mr. Crab goes down into the mud. In the summer we get them with the ordinary crab net on the flats. A couple of poles and all kinds of hooks and lines are also kept on board for jigging for sea trout or weakfish.

Now with a small Shipmate stove aboard (the oil-burning kind are no good for real cold-weather work with the spindrift making ice all over you), so that you can go inside for a hot cup of coffee, what is finer than a day on the bay? If you want a mess of soft clams, all you have to do is to go anywhere on the flats in shoal water, keeping about two inches under you; throw your mud-hook overboard, make the cable fast astern, after paying out a couple of fathoms, and give her full speed ahead. Result: a bushel in ten minutes, gathered up with your scapnet.

Now to all men this may not appear attractive, as there is a certain amount of hard work with the fun, but you are certainly close to nature and adding years to your life by keeping your lungs full of ozone and the red blood running through your veins at all seasons of the year.



"MY WIFE CALLED HER THE FLATIRON BUILDING ON A SHINGLE"

And, in spite of her age when I bought her, Havoc is still good for ten years' hard work. Not only do I use the boat for this "getting close to nature" the year round, but, in spite of her looks, she is useful for cruising as well, as the following account will show. For crew on this trip I inveigled a friend (who is a yachtsman) to go with me. Strange to relate, I still retain his friendship:

"WASHED FOUR THOUSAND TABLE AND KITCHEN ARTICLES"

Extracts from log of voyage of the good ship Havoc, from Bay Shore, Long Island, to New London, Conn., for the Yale-Harvard boat race:

From her home dock at 2.30 P. M. the well-found petrol lugger Havoc moved all of her 25 feet majestically out into the waters of the Great South Bay. Well mannered and "over-powered," the aforesaid craft proceeded to "eat up" the distance between Bay Shore and Moriches, at which latter place she decided to spend the night. The wind blew right merrily from the S. E., and all went as happily as a wedding bell until the mate (who was also assistant chef and cabin boy) tried to run over a dusty spot in Moriches Bay.

At 2.31 P. M. the captain (also chief engineer) commenced to prepare something for a 7.30 dinner. To do this he inserted himself in the companionway (so called because anyone there was in his companion's way), which was his favorite lurking place during the cruise, and there protruded himself as much as possible.

At 7.20 P. M. the mate, alone, and unaided, cast anchor in 7 fathoms of water (less 6 fathoms 2 feet) opposite the metropolis of Moriches. The first complication obtruded itself when, after a fine course (not coarse) dinner had been partly digested, it came time to pipe all hands 'tween decks for snoozing purposes. The mate's stateroom contained a bed originally designed for Sarah Bernhardt. Its maximum breadth was 18 inches, and, as the mate exceeds that beam greatly, the overhang (not hang over) was excessive. A number of exceedingly sharp edges connected with the couch were cleverly worked out by the designer to discourage slothful slumber, and they were 100% efficient. The mural and ceiling decorations were evolved in the studio of Sears, Roebuck & Co., and the little wavelets purling 'gainst the sides of the Havoc caused these decorations to clash together in one grand, solemn requiem.

Most of the space assigned for the captain's quarters seemed to be occupied by one glittering pan cover of mammoth proportions and hellish, omnipresent characteristics. The Havoc, unlike the Imperator, carried no real conservatory, but, as a good substitute, a bunch of bananas, the captain's idea.

SECOND DAY.—Up betimes—at least about 4 A. M. Weather was lowery, but we remembered that Annie was, too, and that she was a nice, young girl, so we didn't worry, but, after a $1.75 per plate breakfast (at St. Regis rates), the crew weighed anchor and the old 10-horsepower Ralaco snorted on her grass-strewn way to Canoe Place. By carefully observing channel stakes and tossing up a coin to decide which side of them not to go on (and then going there) we arrived at Shinnecock Light. Suddenly all hands were piped on deck and peremptorily ordered to man the scythes and shave the propeller. This being done and the eel grass removed, the chief engineer daintily cleaned the intake valves on his trousers, and the staunch, speed-limit-breaker continued on her devastating way toward Peconic Bays, large and small.

'Twas then that tears were seen in the skipper's eyes, and when questioned thereat, replied that in a short time he would be compelled to cease using the old Long Island road map which had been in his family for so many years, and which up to this time had been our constant guide and help, and that, after going through the Peconics, we would have to sail by a Long Island Railroad folder for the rest of our outward voyage. These folders were notoriously unreliable.

We found the canal just where the builders had left it, and against a fast-slacking head tide we went its short length, entering Great Peconic Bay. There we soon found a welcome, favoring tide, which ripped us through this length of land-locked waters, past Robbins' Island, Greenport and Shelter Island to Plum Gut. There we found a wind against the outgoing tide that troubled the easily bothered waters of this strait. Our course to New London remembers like this—N. E. ½E.; but, anyway, a tug and five-barge tow put us off our course from time to time. We finally crossed the tug's bows, picked up Bartlett's lightship, and from there sailed a true course to New London. Saluted the lightship with three whistles. The N. Y. Y. C. anchorage was reached at 7.30 P. M., and an excellent dinner was served by the light of waning day.

The real value of Dutch Cleanser here became known to the mate when the 87 dishes soiled by the aforesaid excellent dinner were made unsoiled. The mate evolved the simple mathematical formula that the amount of Dutch Cleanser used varies as the square root of the excellence of the dinner. Cap put ashore and sent two telegrams to first and second officers' wives, and it was then to sleep—maybe?

Matey, after overlapping his Bernhardt bed for a weary time, extracted both his feet from the engine and adjourned to the top of the cabin. There he wrapped his frail frame in a luxurious S. R. & Co. $7.50 army blanket, and, lashing himself down with the whistle cord, slept like Philadelphia until the glowing orb of day shot from the roseate East ushering in the—

THIRD DAY.—Cap decided that we would sail up the Thames a bit before breakfast, and 7 o'clock found us eating our first meal of the day opposite Gale's ferry, some six miles from the N. Y. Y. C. anchorage. The yawl Windward was there, too. The skipper recognized a friend in the owner, so, though she carried more guns than we did, we boarded her at 10 A. M. The owner promptly surrendered after seeing the Havoc, saying we were surely "hardy mariners." We also met on board two guests who were responsible for Yale's rowing destiny. One came from Chicago; the other from Boston.

Some exploration of the upper Thames followed, but we became mixed, and as Cap said he didn't want to leave the timbers of the dainty Havoc to rot in the upper reaches of that stream, we desisted, and after coaching various of Yale's crews a bit, we anchored south of Mamcote, a beautiful—in fact a wonderfully beautiful—promontory that juts out in the Thames with a splendid jut. Having no mast, couldn't lash the mate to it, so strapped him to deck-house, and then slumber.

FOURTH DAY.—The crews came in for some attention, and the rest of the day was mainly taken up with eating and getting ready to eat. Incidentally, we got some real gasolene in New London; likewise ice and store grub; also we rebananered. Slept in rain on cabin top, while the skipper nested in cockpit, partly in the galley, partly aided and abetted by a rubber door mat and son's suit case.

SIXTH DAY—(Being Friday).—Arose and woke up the birds, as per usual. First great excitement, next to breakfast, was the Freshman race. Saw a fine, close finish from Mamcote, H. doing Y. in the customary manner. Washed four thousand table and kitchen articles, this being one of our daily stunts. Sailed Havoc around the yachts anchored each side of course. General alarm was sent out on our approach, and cordon of Pinkertons surrounded each yacht. Harvard 'varsity accompanied Yale 'varsity some way down the Thames, and then, remembering a dinner engagement, excused themselves. Yale accepted their excuse and practiced the gold stroke (not cure) for four miles. The spectators yawned slightly and then went away.

Anchored in outer harbor preparatory to an early start. Rain and profanity introduced the—

SEVENTH DAY.—Rose at 3 A. M. S. W. wind; also rotten rain and fog. Cussed in all the languages we knew, after running out of harbor two miles and running back to anchorage. Started again at 6.30 A. M. in practically same conditions and desperation. Picked up Plum Island in haze in less than two hours, and passed through its intestine all right and with a roaring tide as far as Quogue Bay and a head one thereafter. Ran through to Bay Shore the same day in 14½ hours without stopping the engine once. Cap did some worthy work savoring of wizardry in navigating 18 miles in the dark, avoiding fish pounds, shoals, other boats and damage claims for running without side lights. We had a combination running light cunningly arranged to lure other craft to their doom, as the port and starboard lights were reversed. Cap had not noticed this when he bought the light in South street.

Docked without so much as scratching the Havoc's paint, with peaceful souls, sore arms and appetites of rock crushers.

Thus endeth one log of the veracious and voracious Havoc.

So much to show what two able-bodied, married men can do in a small boat to keep in good condition and have a lot of fun at very small expense.

"SKIRTING ALONG THE BREAKERS FOR THE BIG BLUE FISH"

How to Build a 14-Foot V-Bottom Sailing Dinghy

By VICTOR SLOCUM

THIS little craft is for the chap who wants to go in for the sport of dinghy sailing. I have worked her out on V-bottom lines because they combine simplicity of construction with speed, and she will be found equal in general sailing qualities to the round bilge type of boat.

Speaking of the requirements for speed, I want to point out, merely as a warning to a prospective builder, that the quality of speed increases in a positive ratio to the cost in material, brawn and nervous energy.

While this dinghy does not measure up in point of size or capacity to the dory described in the January issue of YACHTING, as a sea boat, yet you will find the dory easier to build and cheaper in point of dollars and cents. But in smooth water the dinghy can make circles around the dory as far as actual sailing goes, and if that is what you are after, you can have it in this boat.

The keel and stem are gotten out dory fashion, and all of the work is in dory style, which is perfectly seaworthy and adapted to its purpose.

It would take a whole book to go into all the detail of a racer, even as small as this, and because of the limitations of one short article I can only touch on the main points, leaving the builder-skipper to follow his own initiative and common sense as he goes along. By referring to the other articles in this series that have gone before on the dory skiff, and the Swampscott sailing dory, he will find the details and principles of construction of this type there fully set forth.

MATERIALS NEEDED FOR 14-FOOT DINGHY

Keel, oak, ⅞″ x 9″ x 12′.
False keel, oak, ⅞″ x 6″ x 12′.
Stem, oak, 2″ x 12″ x 4′.
Transom, oak, ⅞″ x 18″ x 4′.
Transom cleats, oak, ⅞″ x 3″ x 8′.
Centerboard box, oak, two pieces, ⅞″ x 12″ x 3′.
Posts for centerboard box, oak, 1⅛″ x 2½″ x 3′.
Centerboard, oak, one board, 1″ x 18″ x 3′.
Stern and frame knees, oak or hackmatack, to pattern in drawings.
Chines and inwales, oak, four pieces, 1¼″ x 2½″ x 16′.
Frames, oak (short lengths), ¾″ x 2″ x 40′.
Seam battens, pine, six pieces, ½″ x 2″ x 16′.
Side planking, pine, two pieces, ½″ x 15″ x 16′; or four pieces, ⅜″ x 8″ x 16′.
Bottom planking, pine, six pieces, ½″ x 9″ x 16′.
Deck, matched pine, 50 square feet.
Foot boards, pine, 40 square feet.
Seat, cypress, ⅞″ x 16″ x 9′.
Washboards, oak, ⅜″ x 6″ x 10′.
Rudder, oak, ⅞″ x 8″ x 10′.
Mast, spruce, 4″ x 4″ x 14′.
Boom, spruce, 3″ x 3″ x 14′.
Yard, spruce, 3″ x 3″ x 14′.

HARDWARE

10 feet ⅜″ galvanized iron rod.
⅜″ galvanized rivets; 1 dozen, 6″, with washers.
1½″ galvanized blunt-pointed boat nails, 3 pounds.
1¼″ galvanized chisel-pointed boat nails, 3 pounds.
2″ galvanized wire nails, 5 pounds.
One package ¾″ galvanized (or copper) tacks.

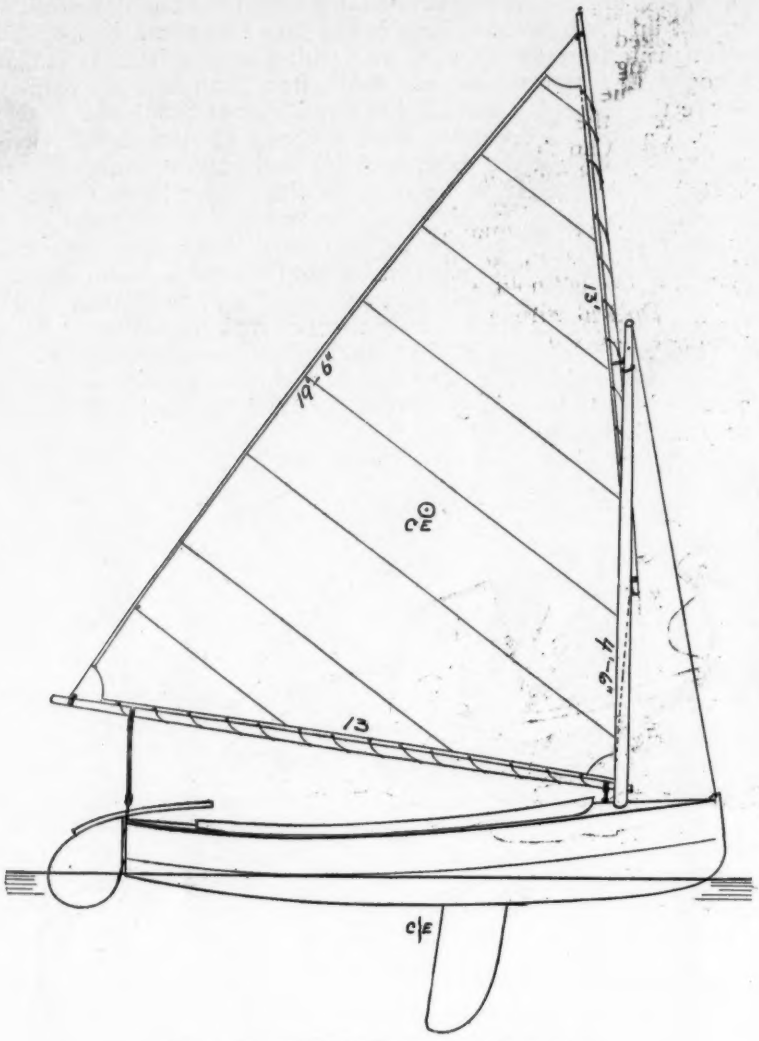


FIG. 1.—14-FOOT V-BOTTOM SAILING DINGHY

2" galvanized No. 10 screws, 1 gross.
1½" galvanized No. 9 screws, 1 gross.
2 pounds Jeffery's marine glue.
1 gallon paint.
1 pint spar varnish.
1 pound calking cotton.
5 pounds white lead putty.
½" stem band with eye for stay.
⅜" eyebolt (threaded) for main tack.
4½" mast ring for haliards.
1" thimble for yard.
Double and single blocks for main sheet; deck and boom travelers; iron band for heel of mast; deck cleats for mooring.

SPAR DIMENSIONS FOR 14-FOOT DINGHY

Mast—Length, 13' 6"; diameter at deck, 3½"; diameter at step, 2½"; diameter at head, 2¼".
Boom—Length, 14'; diameter in center, 2½"; diameter at ends, 2".
Yard—Length, 14'; diameter in center, 2½"; diameter at ends, 1¾".

LAYING-OFF TABLE

Nos. of Sections.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.
Heights above base to sheer line	1' 10"	1' 7½"	1' 6"	1' 6"	1' 7½"	1' 10½"	2' 2"	2' 5"
Heights above base to bottom of keel..	7"	3½"	1¼"			¼"	3"	
Half breadths at sheer line	1' 9"	2' 2"	2' 5"	2' 6"	2' 4"	1' 11"	1' 2½"	

Fig. 1 is the outboard profile and shows the contour of the hull and the general style of the boat, the sail plan, style of centerboard and rudder.

Turn to the sheer and construction plan, Fig. 2, and project the boat, full size, on a sheet of building paper. Strike a base line with a chalk line, and from this base line erect the sections I to VIII, two feet apart, and perfectly square to the base. There will be no particular advantage in laying down the half-breadth plan, but it will be just as well to do it if you have the space. But draw in all of the detail of the sheer construction on these patterns, as it will help you to a better understanding of how to put the boat together than all the talking I can do.

When you are ready to strike out the curve of the keel, turn to the laying off table, where it says "Heights above base to bottom of keel." They will explain themselves, excepting that the curve should be extended from section VIII to a point 9 inches above the base line. (Fig. 2.)

Get a very thin white pine or cedar batten to lay off the curve of the stem. You will notice that the stem head at sheer line falls away from the vertical 1½ inches, and that the line is straight from that point to where the stem touches section VIII.

If you can get a nice natural crook to make your stem with, there will be no need of building it up, which otherwise has to be done to avoid cross grains. Fig. 3 gives the layout of the stem in greater detail, the direction of the grain being shown on the different members.

Lay in the centerboard box and the stern knee, giving the latter 2 inches of wood at the head and toe and plenty of wood at the throat.

This drawing is technically known as the "floor draught," from the fact that all good boat and ship builders lay down full-sized lines of the vessel they are about to construct on the floor of

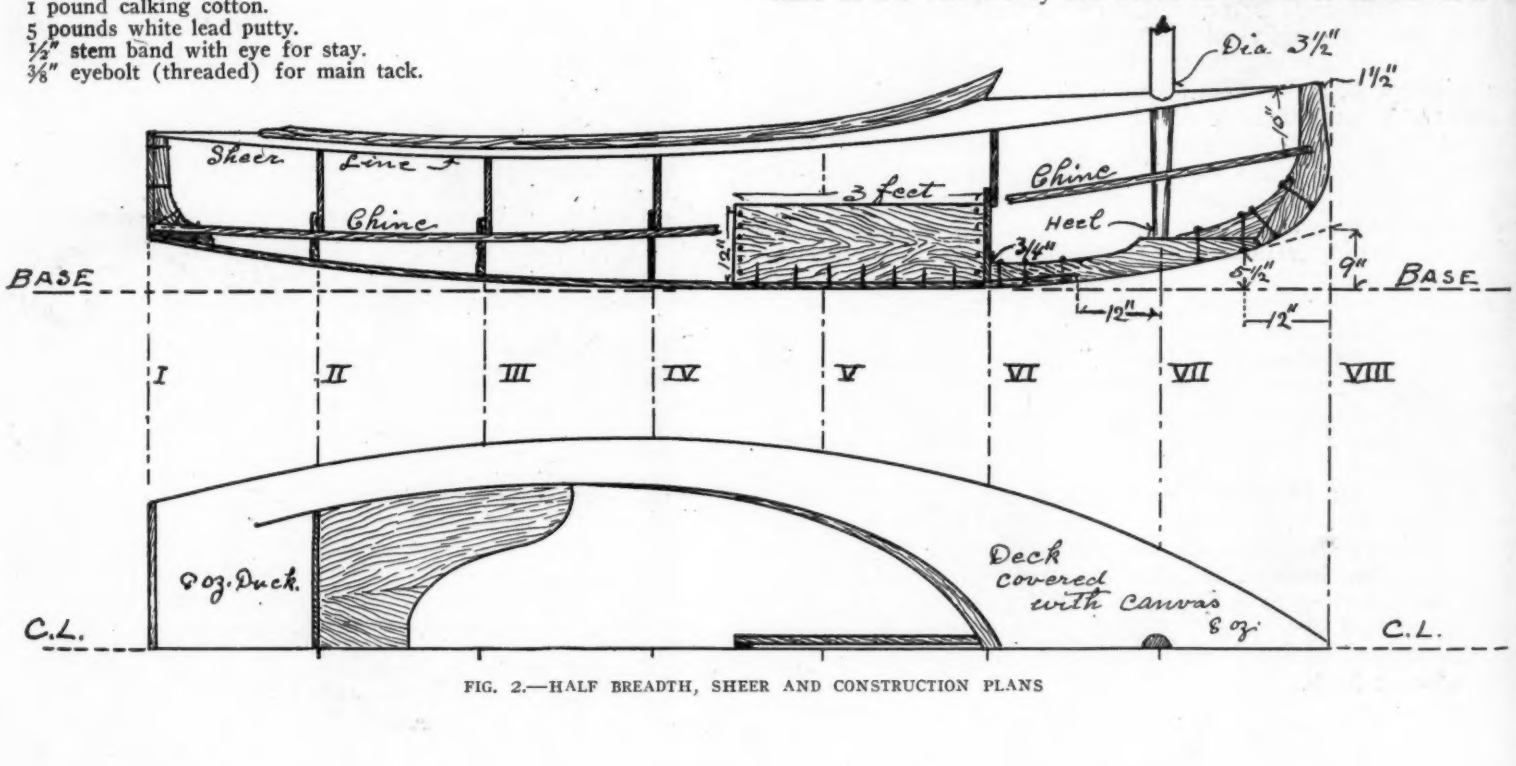


FIG. 2.—HALF BREADTH, SHEER AND CONSTRUCTION PLANS

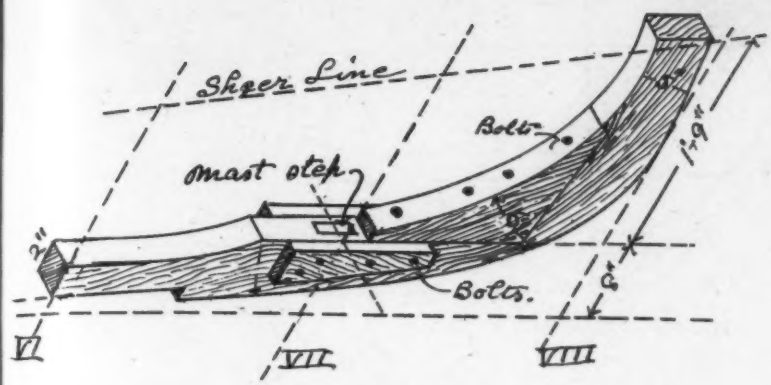


FIG. 3.—STEM.

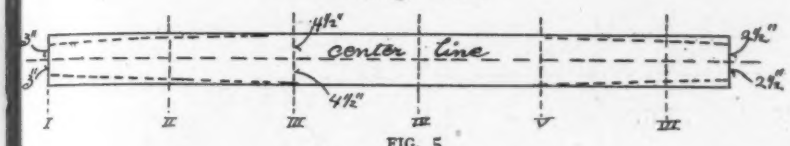


FIG. 5

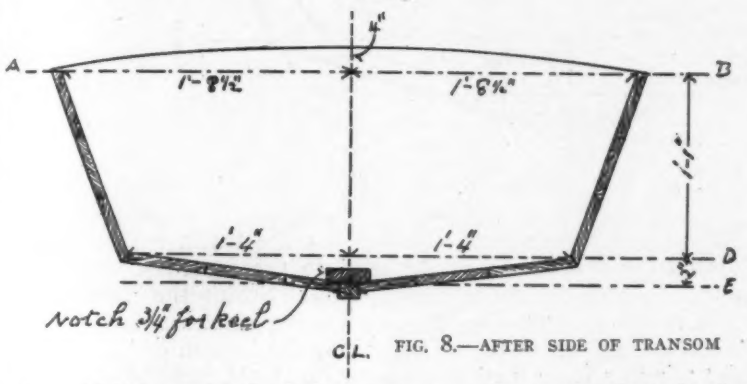


FIG. 8.—AFTER SIDE OF TRANSOM

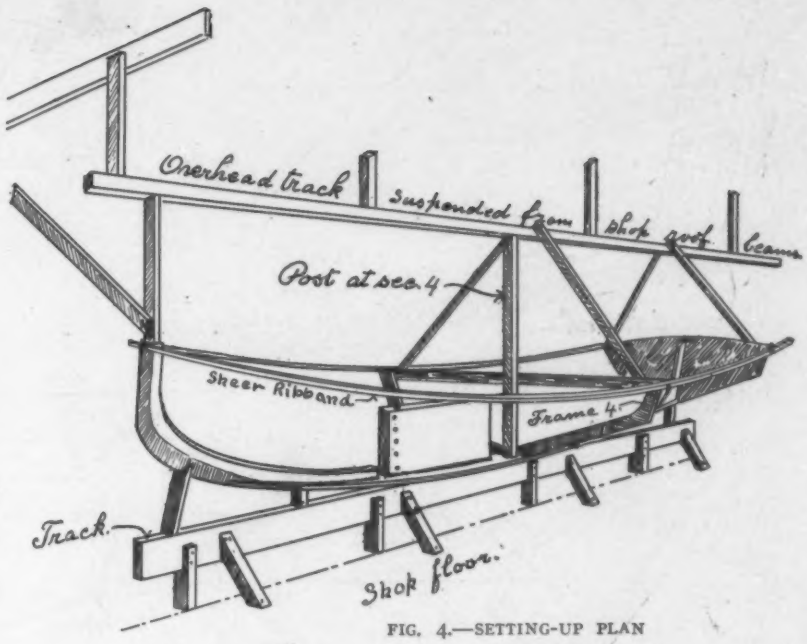


FIG. 4.—SETTING-UP PLAN

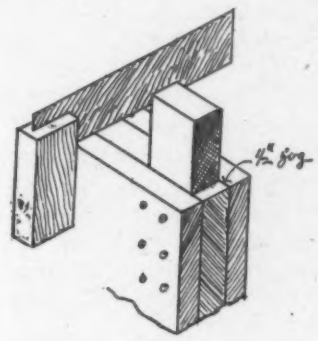


FIG. 6

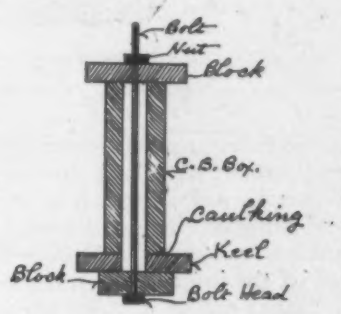


FIG. 7

the mold loft, and it is their custom to refer to the draught thus made as "the floor." So, for the sake of clearness, I will do the same.

Now, get a 2-inch plank of any convenient width to set your boat upon. Plane one edge straight, lay it down on the floor, and, with the steel square, transfer to it all the section stations from I to VIII. Set it up about a foot and a half from the shop floor, as shown in Fig. 4. Strike a line first on the shop floor to start on. Put up the diagonal braces at the ends of the "track" first, and then the intermediate ones, being certain that the track is level and perfectly straight on top before you leave the job.

If the ceiling of the shop is too high to enable you to reach it while standing on the floor, you will have to suspend a joist from the ceiling for an overhead track, plumb over the floor track. That can be seen in Fig. 4 also. Have a care to rig it up solid and brace it well diagonally, as you depend more upon this than anything else to make a good job of the boat. Moreover, this is the boat builder's way of doing it. When this is done, and your bench is made ready for work, you will feel that you are in a regular boat shop with everything ship-shape.

You may now turn your attention to the keel, which is a ⅞-inch oak board. Bend the keel board around on its place on the floor draught, and across each side mark the ends and the sections. Take the keel up from the floor and lay it on the bench with the face which you intend to use for the inside up. Line through the center with a chalk line, and, from the line so obtained, lay off the half breadths of the keel (Fig. 5) to give the taper. The keel is parallel 4½ inches on each side of the center line between sections III and V. It tapers to 3 inches on each side of the center line at the stem end. That makes the total width of the keel between sections III and V 9 inches, at the stem end 6 inches, and at the stern end 5 inches. (Fig. 5.)

The centerboard slot is 1⅛ inches wide and 2 feet 10 inches long. Start to cut it 1 inch abaft section VI, the after end being between sections IV and V. The line for the fastenings is ½ inch from the edge of the slot, and the holes should be bored 3 inches apart with a No. 6 bit. The sides of the centerboard box are 3 feet long by 1 foot wide. The posts are 1⅛ inches thick by 2½ inches wide by 14 inches long. Fasten the boards (tacked together) in the vise and block the ends off perfectly square, and be sure to do the job nicely, for it will save a whole lot of bother if you do. In telling you how to put them together I will just repeat what I said on this point in my article on the Swampscott dory in January YACHTING. To make the box, fasten the side boards to the posts with thick paint and lampwick between the meeting surfaces to make it water tight. In making this box myself, I would first place the two posts on the bench flatwise, and down the center of each stick I would embed a strip of lamp wicking soaked in thick paint. Then I would lay one of the side boards on this, keeping the oak pieces flush with the top and ends of the side boards and tack in place with some brads until I could put in the screw fastenings 2 inches apart and "staggered" each side of the lamp wicking. Be sure to bore deep enough into the oak to prevent splitting, and at the same time small enough to give the screw good holding ground.

Before driving in any fastenings that you are not sure of beforehand, always make a test in a block of wood with various sized drills or bits before going ahead to bore. The paint will always squash out if you are doing good work, and if you find that a screw doesn't hug up and gets "killed," going round and round in the wood without drawing up when you try to make it do its work, take no chances with it, but draw it out, plug up the hole with pine and try somewhere else, taking care not to bore so deep next time. A little experimenting in a block of wood will show what I mean.

After driving enough screws in one side, turn it over and repeat the operation on the other side. Notch the ends of the posts ½ inch in from the end of the box, as indicated in Fig. 6. When you are ready to fasten in the box, first make sure that the edges of the box are perfectly plane with each other by the try square. (Fig. 6.)

Now lengthen the centerboard slot so that the posts will just fit in snugly, and, having made sure of this point, embed a strip of

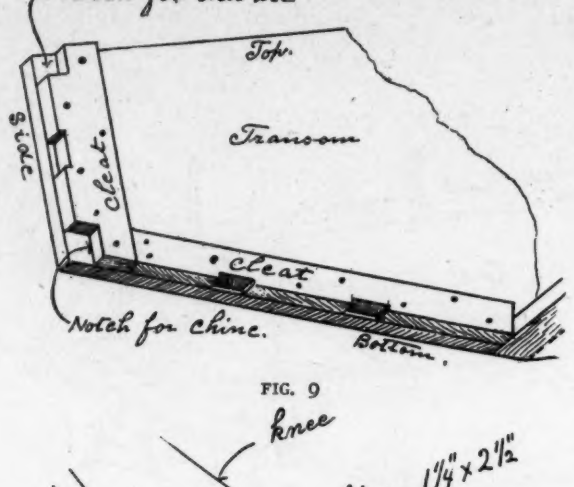


FIG. 9

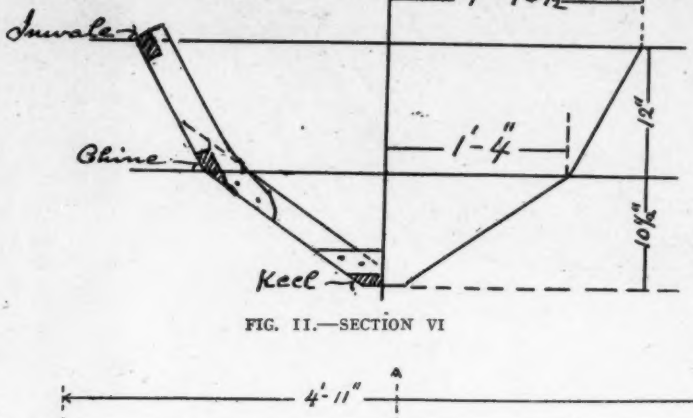


FIG. 11.—SECTION VI

FIG. 14

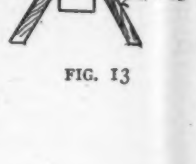


FIG. 13

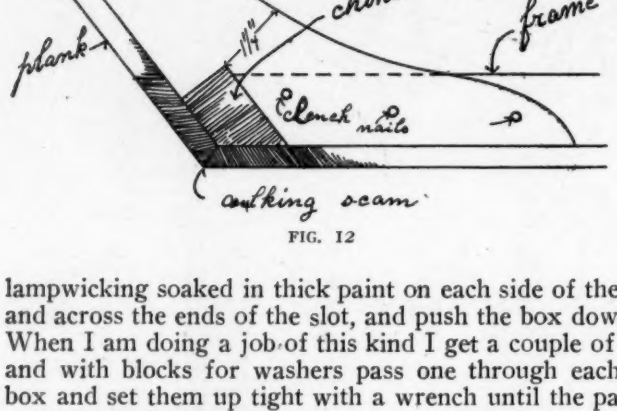


FIG. 12

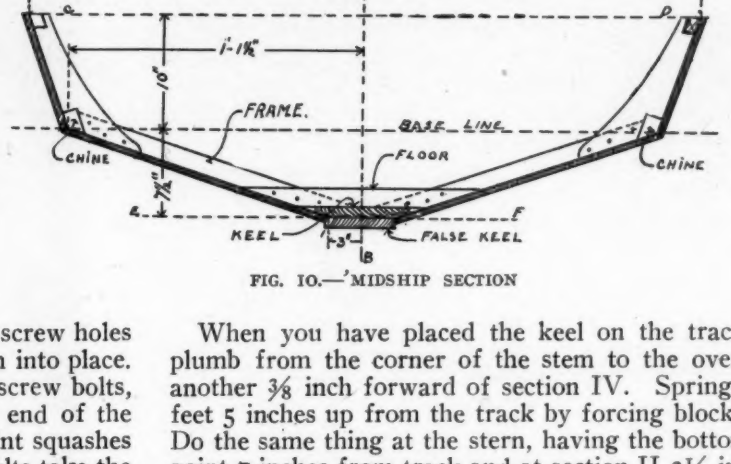


FIG. 10.—'MIDSHIP SECTION

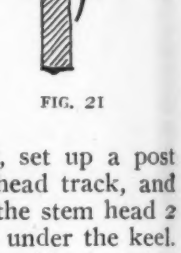


FIG. 21

lampwicking soaked in thick paint on each side of the screw holes and across the ends of the slot, and push the box down into place. When I am doing a job of this kind I get a couple of screw bolts, and with blocks for washers pass one through each end of the box and set them up tight with a wrench until the paint squashes out of the joint between the keel and the box. The bolts take the nonsense out of it. Fig 7 shows this in detail.

Then turn the keel over and fasten the box with 2-inch No. 10 screws, being careful to bore in a short way with the No. 4 bit for each screw. Be sure that your screws get good holding ground, and, as I said before, take no chances with a loose screw, for it will surely cause a leak.

For the stem, make paper patterns by cutting out the floor draught with your knife. Always use a straight edge when going along the straight lines. Fig. 3 will tell you about all you want to know about putting it together. The through fastenings are ⅜-inch by 6 inches galvanized rivets. Countersink the heads from the outside about an inch to avoid trouble when you come to bevel your stem. Do that when you have planed up the face of the stem and made a gauge line down the center. The gauge line for the bevel is 1¼ inches from the face. Cut bevel to line for a foot from the stem head, which will be enough for the present.

The pattern for the stern knee is made in the same way as you made the one for the stem. That makes it sure that you have the bevels right. Fasten it to the keel 1 inch in from the end with ⅜-inch rivets and have the heads flush with the bottom of the keel.

Fig. 8 is the layout of the transom. You will notice that it jogs down ¾ of an inch over the end of the keel. Fig. 9 shows how to put on the cleats to take the ends of the inwale, 1¼ inches by 2½ inches, chine 1¼ inches by 2½ inches, and the seam battens ½ inch by 2 inches. The bevel for both sides and bottom edge of the transom is 3/16 inch to each ⅞ of thickness. When you have fastened stem, centerboard box, stern knee and transom to the keel you have what is known as the foundation, and you are then ready to set it up.

Bore a ⅜-inch hole down through center of keel at section VI, and another one at section IV. Drive an oak dowel through each hole and allow it to stick out ½ inch beyond the bottom of keel. Now snap a chalk line on the center of the track, which will give a center line to go by. Bore ⅜-inch holes at sections IV and VI on the track where they coincide with the center line to receive the dowels you have driven through the keel.

When you have placed the keel on the track, set up a post plumb from the corner of the stem to the overhead track, and another ⅜ inch forward of section IV. Spring the stem head 2 feet 5 inches up from the track by forcing blocks under the keel. Do the same thing at the stern, having the bottom of keel at that point 7 inches from track and at section II 3½ inches from track.

Plumb the stem and level the stern as shown in Fig. 4, and do it well. The form of your boat depends entirely upon your faithfulness to these details at the beginning, for, having got your work well set up, the seeming difficulties to come later will vanish into thin air as you come to them. Only make sure that your work is well braced and fastened as you go along.

Project section IV (Fig. 10) and section VI (Fig. 11) full size on the floor, and directly on the drawing so made put the frames together.

The side pieces are ¾-inch thick and must be made of a natural crook of either oak or hackmatack. Give them a full 1¼ or even more at the throat where they are jogged for the chine. (Fig. 12.) It will be better to chamfer the inner corner of the chine about ⅜ of an inch, as every bit of wood here adds much to the strength of the boat. Be sure to fasten cross stays, or spalls, to the frames before you take them up from the floor, to hold their shape, and have the center marks on them.

Fasten each frame in its place by nailing near the center into the keel. Then level and brace as in Fig. 4. Now is the time to square the frames and transom with the fore and aft line of the boat. You can do that by putting in diagonal horizontal braces. And, as I said before, do it well.

You are now ready for your inwales and chines, which are shown in section at Fig. 10. The top of the inwale is flush with the top of the sheer line, and the top of the chine is let into the stem 10 inches down from its head.

Taper the chines and inwales to ¾-inch in thickness at the ends, and let them in at the stem and transom as in Figs. 13 and 14. You may have to correct the stem bevel when you come to fit these ends.

Fit in the rest of the frames as indicated in the construction plan, Fig. 2. Nail the frames together where they lap with blunt-pointed galvanized boat nails (Fig. 12) and fasten in the inwales and chines with 2-inch No. 10 galvanized screws with heads well countersunk.

If you have been able to get your side plank wide enough to go on one piece to a side, you can put them on at once, fastening them

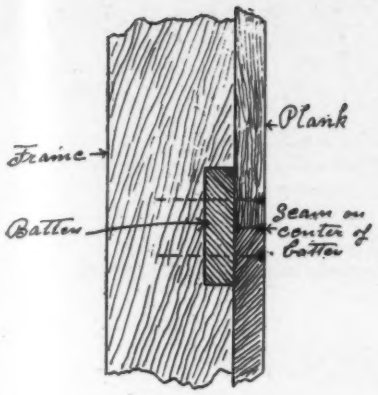


FIG. 15

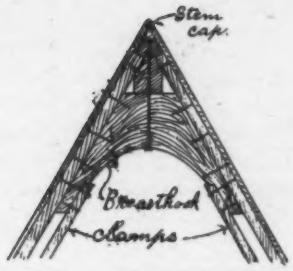


FIG. 16

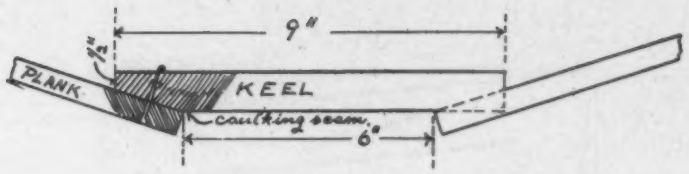


FIG. 18

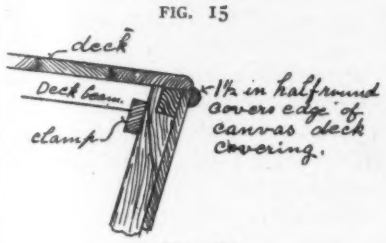


FIG. 19

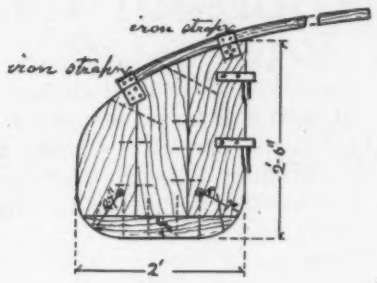


FIG. 20

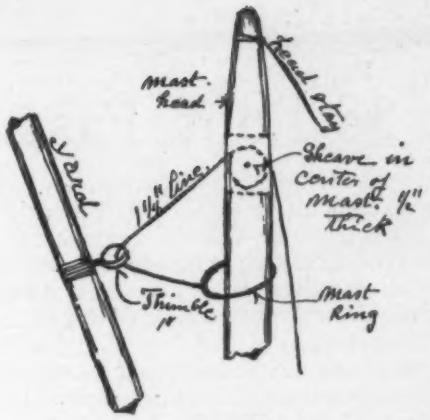


FIG. 22

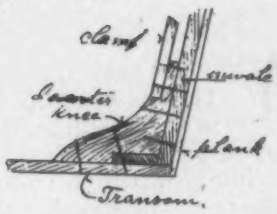


FIG. 17

with 1½-inch boat nails. But if your side plank come in two pieces to the side you will have to run in a seam batten ½ inch by 2 inches about halfway down the frame and parallel with the sheer line. Fig. 15 will give you an idea of what is wanted. Clinch with 1¼-inch chisel-pointed nails every 3 inches between the frames. If you have to work a seam in, look out that you take a shaving off the outside corners of the plank to allow for caulking. Allow the bottom edges to drop at least an inch below the chine corner. Trim the plank ends flush with face of stem and face of transom.

You are now at a point where you have your job well in hand, and I will only touch on the succeeding steps as briefly as possible, so as to save space.

Fit a breast hook in stem as shown in Fig. 16, and quarter knees as in Fig. 17. The clamp, the ends of which are seen stopping at the breast hook and quarter knees, is fastened by means of screws to the inside of the frame 1 inch below the top edge of the plank and is to receive the deck beams, which may be sawed from ¾-inch spruce.

There is a deck beam at each frame, and the camber (curve) of the deck beam at section VI is 6 inches. Fasten the deck down by through nailing with 2-inch wire nails, setting the heads down well to allow for smoothing.

It is now time to turn the boat over on some low horses and plank the bottom.

You have seen that the plank came together on a mitre, which is the first thing to cut. Fig. 18 shows how the keel is beveled at section IV for the garboard plank. By following the frames your eye will tell you how this bevel is carried to the stem.

When the bottom frame is true and in line, work in your two seam battens between the three boards with which the bottom is planked. (Fig. 15.) If you find that the forward ends of the garboard bend over too hard, soak the ends for an hour or so in hot water, but if that is not possible and you are near any open water, tie a rope to them and let them lie afloat over night. You will then have no trouble with them. Details of the planking are the same as in the dory skiff, the first article of this series.

After you are all planked, caulk all outboard seams, not forgetting the seam between the garboard and the keel and the seam at the wood ends at the stem.

Cut in your false keel (Fig. 10), and bend it over your outside stem just as is done with a dory stem. You will have to soak it well to make it flexible enough to bend over the sharp curve of this stem; ⅞-inch is plenty thick enough. Select a very straight-grained piece of white oak for this.

See that your fastenings are well set in and then smooth off the boat, sandpaper, and give your ship her priming coat of paint, having a care that the paint soaks well into the seams. If this is not properly done and the caulking not covered with paint, the putty with which you afterward fill the seams will not stick.

Now turn your boat back again right side up and put on the deck canvas. You can now get marine glue at the ship chandler's that will stick canvas on to such a place as this. Get the kind that needs no melting and does not have to be put on hot (Jeffery's). (Fig. 19.) Bend in the oak wash boards when you have the deck covered.

The half-breadth plan, Fig. 2, shows the stern seat, and after fitting that in, put in the standing platform or bottom boards. I would advise you to make this in sections so that you can easily take them out to clean the boat.

Fig. 20 shows the construction of the rudder and tiller, with all dimensions marked thereon. It is the type used on the Cape Cod cats, and can stand a lot of hauling and abuse. It is fitted with the usual gudgeons and rudder braces. Get a centerboard in one piece if you can, 18 inches by 3 feet long, of oak 1 inch thick. Round and thin the lower end so it will cut the water and cleat the top end to hold it up. If it will not stay down, fasten a spring on one side so as to press against the centerboard box, and that will hold it in place. (Fig. 21.)

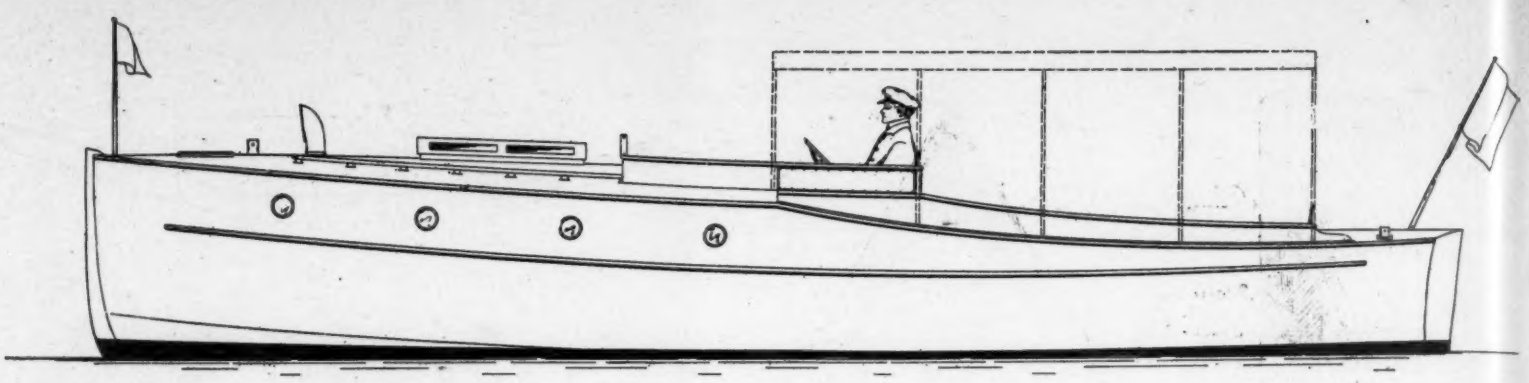
When making spars, square them to dimensions and taper before eight-squaring and final rounding. The mast is parallel from the deck for about two-thirds of the way to the head, and then the taper will not be too sharp, and will allow plenty of wood where a sheave is worked, 9 inches from the head. Work a score at the mast head to receive the eye of the head stay.

Tennon the heel of mast to fit loosely into the step, and drive an iron ring onto the round part of the heel just above the tennon. Provide an eye bolt with a nut to set up under the deck for the tack of the mainsail.

Fig. 22 shows how the halyard is rove off. First bend the halyard onto the mast ring, reeve it through the thimble which has been seized on the yard, and then over the mast sheave. The ring should be 4½ inches in diameter and covered with leather to prevent chafing the mast.

The main sheet engages a traveler that gives plenty of room over the tiller. A single and double block will do for the main sheet, and the belaying cleats can be fastened to suit the fancy.

In regard to the probable cost of this boat, much depends on where you are located, and whether local prices of lumber and material are high or low. A liberal estimate of all material, fittings, paint and so forth, exclusive of sail, would be fifty dollars. Thirty-five or forty dollars would buy the material in some places. The sail can be home-made of a light cotton drill, or, what would be better, get it made by a local sailmaker who will turn out a workmanlike job, get just the proper draft in it, and probably give you a more satisfactory sail at a very moderate price.



A 38-Foot Fast V-Bottom Cruiser

IN New York there is at present under construction for Mr. Thomas B. Taylor an unusually interesting small, fast cruiser of the V-bottom type, from plans by William H. Hand, Jr., of New Bedford, Mass. This boat is shown in the plans herewith. While primarily a cruiser with excellent cabin accommodations, the boat will be faster than the average fast runabout, yet at the same time wholesome and seaworthy.

The cabin, in which there is 5′ 10″ headroom, has a good-sized toilet room forward, a main saloon with berths for two, while aft there is a berth for one (a paid hand if desired) on starboard side, with a convenient galley to port.

The motor is installed under a bridge deck amidships, where it is out of the way, yet accessible. On the bridge deck are seats of the runabout type, auto-steerer and engine controls. Those on the bridge seats are protected from wind and spray by a neat and rather novel bridge-type rail with weather cloths, an arrangement which has been used successfully by Mr. Hand on many similar boats. The gasolene tanks are under the watertight cockpit floor. The cockpit is unusually spacious, with room for a large party.

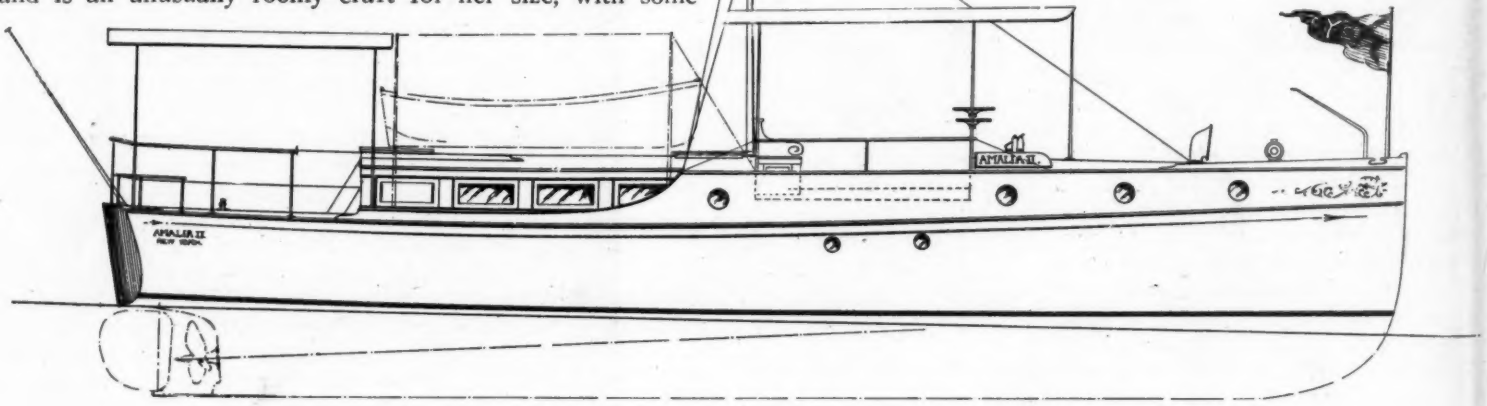
The motor will be a six-cylinder, 5½″ x 6″, 4-cycle motor, which will be operated at about 1,200 revolutions per minute, and the boat is expected to show over 19 statute miles per hour. Experiments recently completed at the experimental station in the Washington Navy Yard with one of Mr. Hand's V-bottom hulls, in competition with the regular round bilge type of the same dimensions and displacement, completely justifies the expectation of this unusual cruiser speed. It was shown at these tests that a properly designed V-bottom is more easily driven than the conventional type, as well as more stable. Mr. Hand says it was demonstrated that this V-bottom boat would travel 20 miles per hour with the amount of power required to drive an equally well-designed round bilge boat of the same displacement 18 miles per hour.

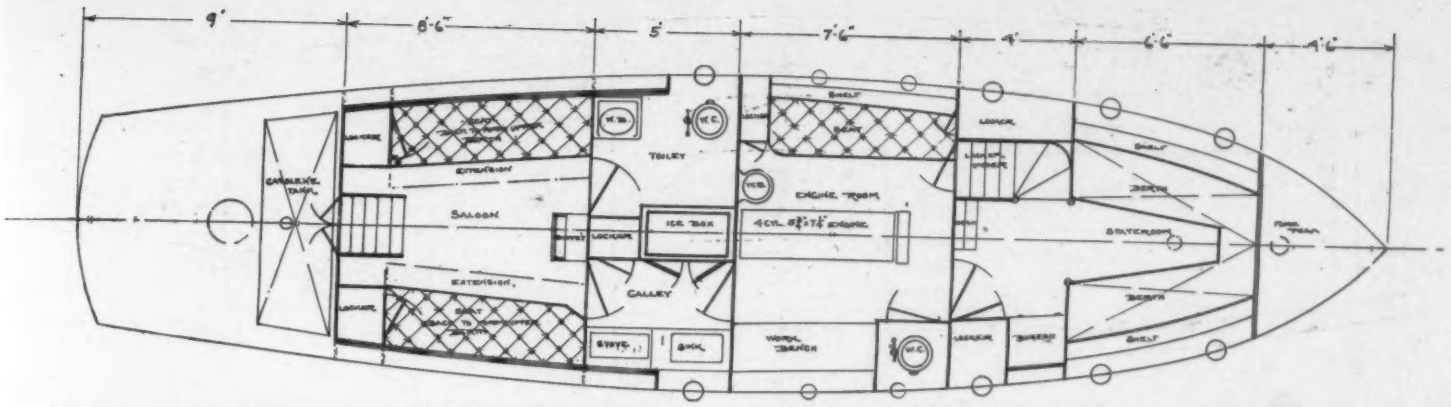
The dimensions of this new boat are: Length over all, 38 feet; beam, 9 feet; draft extreme, 2 feet 11 inches. The propeller and rudder are protected by an extension of the keel, and in no way may this boat be said to sacrifice essential qualities for speed.

Amalia II, A 45-Foot Cruiser

A CONVENIENTLY arranged 45-foot power cruiser for use on Hudson River and Long Island Sound is the Amalia II, under construction by the New York Yacht, Launch and Engine Company, of Morris Heights, New York, for a New York yachtsman The boat is from designs by the builders, and is an unusually roomy craft for her size, with some novel features that make her distinctive.

The bridge deck, or steering well, as it should properly be called, is amidships, and is only slightly depressed below the level of the raised deck forward. There is a fine





thwartship seat at the after end of this well deck, the steering gear being at the forward end. This deck is covered by an awning on stanchions. A companionway leads from here to the stateroom forward. This room has two built-in berths, a lobby with bureau, clothes locker, desk, etc., and it is ventilated by side ports with a cowl ventilator forward.

The engine room is amidships, under the steering well, and contains a 24-30-horsepower, 4-cylinder, 5¾" x 7½" motor, a transom seat or berth, work bench, toilet for crew, etc.

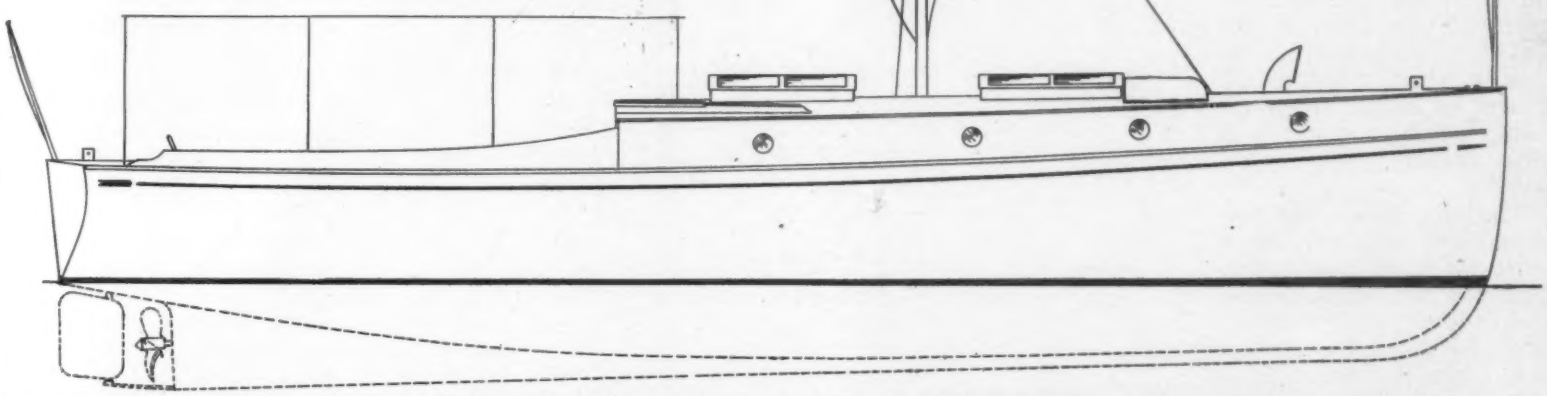
Abaft the engine room is the main saloon, the entrance being from the after deck. This compartment contains an extension transom on either side, clothes lockers and a buffet at the forward end. On the starboard side is a large galley with ice box, locker and sink, etc., with doors leading to both engine room forward and saloon aft. On the port side is a large well-appointed toilet room for the owner's use.

The gasolene tank is aft under the main deck. On this deck is room for several chairs, while there is a permanent seat at the after end.

The principal dimensions of this boat are: Length over all, 45 feet; length on the waterline, 44½ feet; beam extreme, 11 feet, and draft, 3 feet 2 inches. She is to be finished in mahogany inside and out, and is a handsome little cruiser. She will probably be entered in the cruising motor boat races in the vicinity of New York the coming summer.

A 41-Foot Raised-Deck Power Cruiser

THE Holmes Motor Company, of West Mystic, Conn., have just completed a 41-foot power cruiser for Mr. Joseph A. Gahm, of Boston, from designs by Mr. Geo. P. Spencer, the general manager of the firm. This

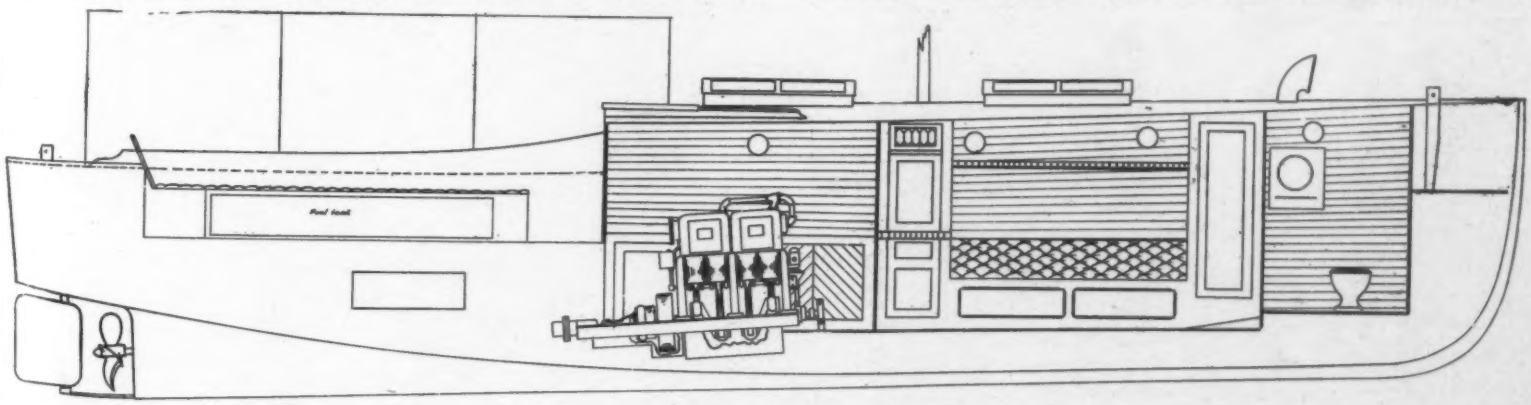


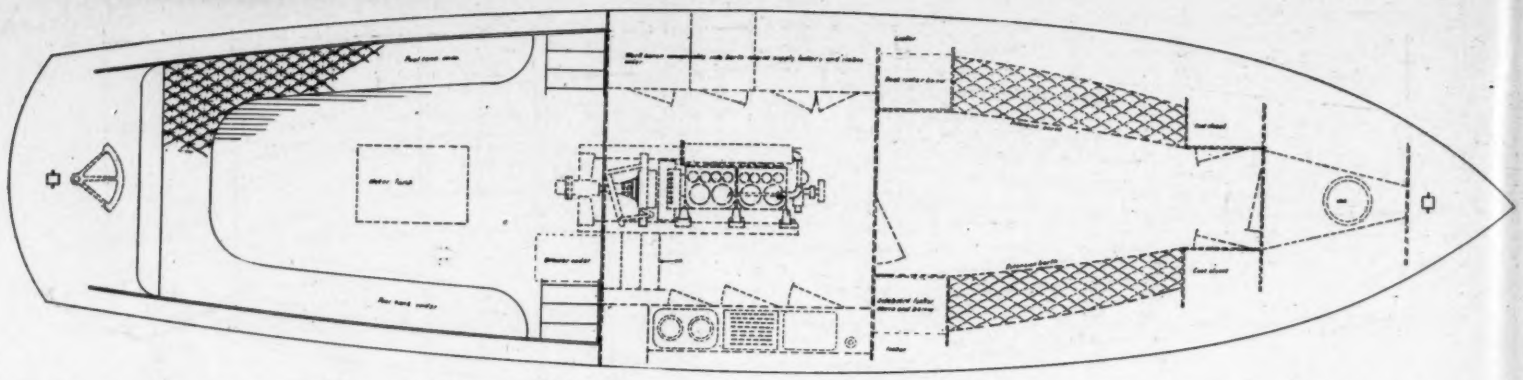
boat, the plans of which are reproduced herewith, is an exceedingly able and well-proportioned cruiser, with just about the proper balance as regards accommodations for average summer service, neither cockpit nor cabin space being sacrificed.

The general dimensions of the boat are: Length over all, 41 feet; length on the waterline, 40 feet; beam extreme, 9 feet 9 inches; draft, 3 feet. She was designed for rough-water use, and has a moderate and pleasing sheer, with considerable flare to the forward sections and an easy run, yet not too flat.

The boat is heavily built, of the very best material, keel and frame being of oak. The planking is of selected white cedar in long lengths, with the sheer strake of yellow pine.

The cockpit is large, with fuel tanks under the side seats. The engine compartment is at the after end of the cabin, and contains a 4-cylinder, Model G, 45-50-horsepower Holmes motor, with which the builders guarantee a speed of twelve miles an hour. On





one side of this compartment is a work-bench with lockers under, and on the other side a stove, sink and other galley fittings. Forward of this compartment, and separated from it by a bulkhead, is a large saloon with extension transoms at either side, desk, sideboard, clothes lockers and a toilet forward.

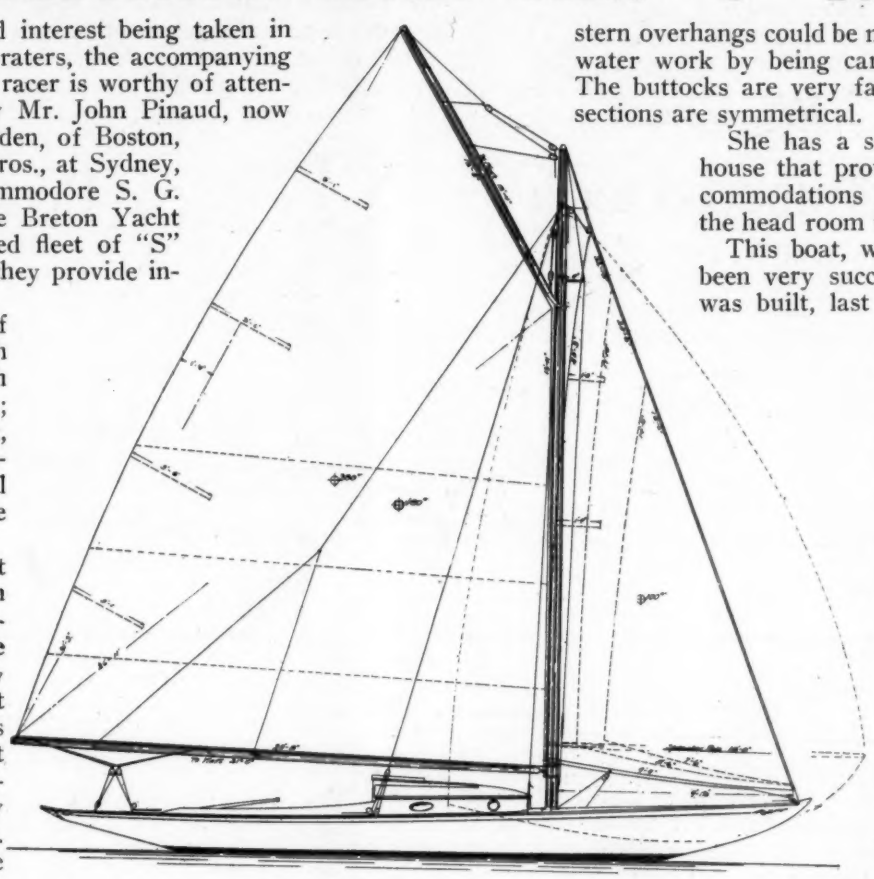
The owner contemplates doing all of his cooking in the cockpit. This can also be converted into a sleeping apartment, being covered with a waterproof awning, with side curtains, making it strictly weather-proof. The boat is to be electrically lighted throughout.

A Successful Little Class "S" Racer

IN view of the increased interest being taken in the smaller classes of raters, the accompanying design of a Class "S" racer is worthy of attention. She was designed by Mr. John Pinaud, now associated with John G. Alden, of Boston, and was built by Pinaud Bros., at Sydney, Cape Breton, for Vice-Commodore S. G. Dodson, of the Royal Cape Breton Yacht Club. There is a good-sized fleet of "S" boats in that vicinity, and they provide interesting racing.

The general dimensions of this little boat are: Length over all, 30 feet; length waterline, 18 feet 9 inches; beam extreme, 7 feet; draft, 4 feet 9 inches; displacement, 4,600 pounds; sail area (rated), 445 square feet.

The lines show a boat that is widely different from what we have been accustomed to look upon as the conventional rater—narrow and deep and generally wet and uncomfortable. This boat, instead, has a very flat floor, comparatively speaking, wide beam, very easy bilges and quite full ends. The bow and probably the stern overhangs could be materially improved for rough-water work by being carried out longer and thinner. The buttocks are very fair and easy, and the inclined sections are symmetrical.

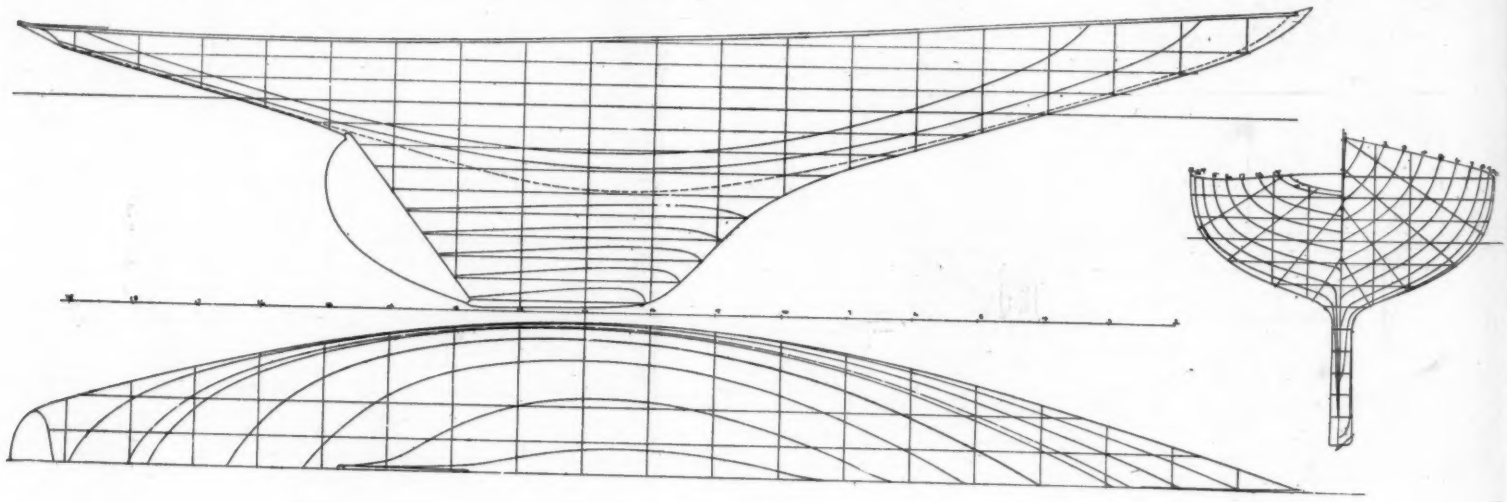


She has a small, well-proportioned cabin house that provides shelter and sleeping accommodations for two on transoms, though the head room is naturally limited.

This boat, which is named Cibou II, has been very successful in her class since she was built, last summer winning six out of eight races. Her best point of sailing is going to windward in a good breeze.

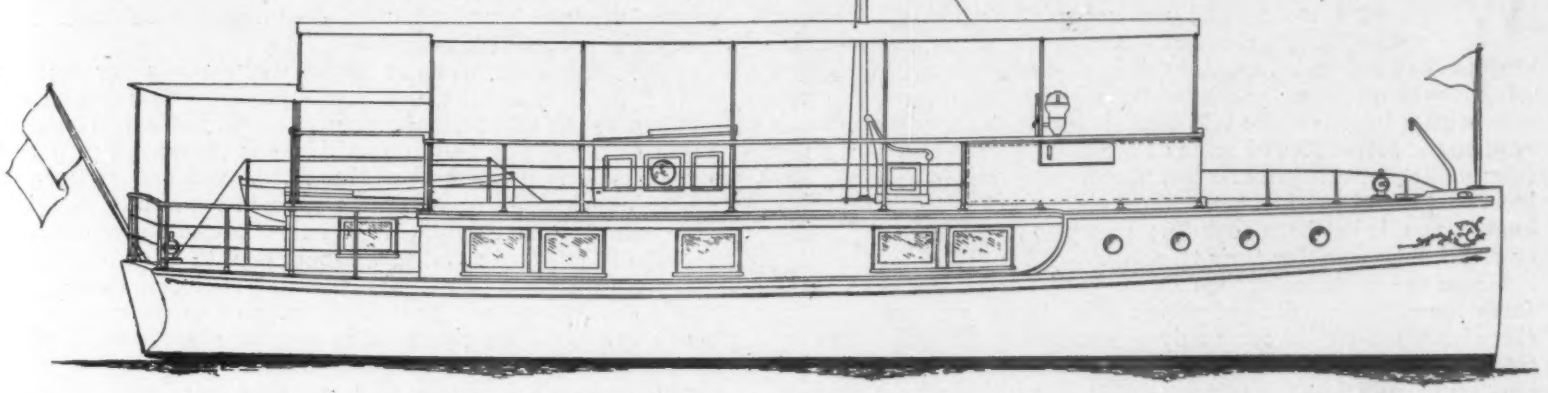
She has a relatively large mainsail, that insures good driving power, and has considerable roach on the leach.

She also illustrates the present tendency towards somewhat fuller ends in boats built under the Universal Rule. Designers are headed away from the lean, sharp forward sections and endeavoring to strike the most effective compromise between the old, flat ends and the more recent knife-like form, sometimes even at the risk of incurring some penalty in the measurement.



A Roomy 50-Foot Power Houseboat

AN exceedingly roomy and well-planned power houseboat is the 50-footer recently designed by Mr. R. M. Haddock, of White Plains, New York, the plans of which are published here. The general requirements that were put up to the designer were to produce a good-looking and well-proportioned power houseboat, sufficiently seaworthy to take long runs along the coast, with accommodations for the owner and his wife, two guests, and with a good-sized saloon or living room, which was not to be used for sleeping—as is generally done in boats of this size. There were also to be accommodations for a crew of two. So closely is the boat planned that every inch of space has been utilized to advantage, and yet the utmost privacy for the owner and his guests has been provided.

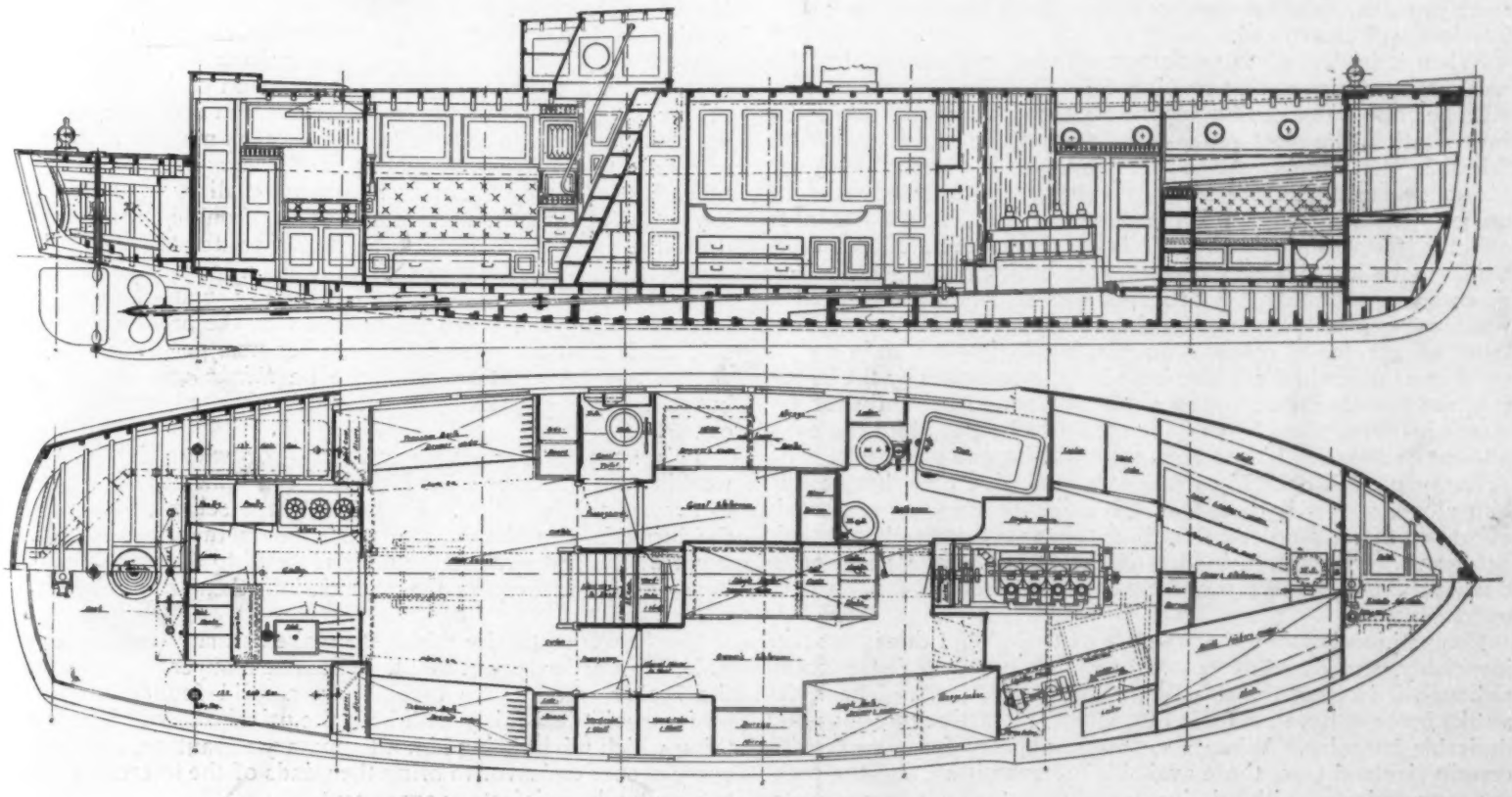


The dimensions of the boat are: Length over all 50 feet, waterline 13 feet 9 inches, draft 3 feet 5 inches. The draft has been kept down for cruising in Florida waters, while the hull is round bottom, of a good seaworthy type, and capable of outside coastal runs from Maine to Florida. She will be powered with a 4-cylinder, 4-cycle 6½" x 8" engine, which should give a cruising speed of nine and a half miles per hour.

As the owner intends to do most of the handling himself, the engine is placed forward of amidships directly under the steering bridge, where it is readily accessible, the hatchway being just alongside of the steering wheel. The owner's accommodations thus have the entire center of the boat. These consist of a large main saloon with transom on each side, sideboards, wardrobe and lockers. The main companionway leads from this room to the deck. Forward of this, on the starboard side, is the owner's room, fitted with two single berths with spring mattresses, a bureau, two large clothes lockers or wardrobes, and a large cheval mirror on the door to the saloon. Opening from this room is the owner's bathroom, on the port side, containing a bathtub, besides the usual toilet-room fittings.

Access to the engine room can be had from this stateroom through a door at the forward end. On the port side is a large guest stateroom, with an upper and lower berth, bureau, mirror, drawers, and shoe locker, while there is another toilet room opening on the passageway, just outside of this stateroom.

The galley, which is large and well appointed, is located aft of the main saloon. It opens on the afterdeck, and thus has good ventilation, so that the smell of cooking is not blown through the whole boat. Provisions, ice, etc., are thus landed on the afterdeck, which is the crew's deck, and can be stored below without carrying through the main cabin.



Some Observations on Yacht Brokerage

By ALEXANDER M. ORR, JR.

"The standard of a calling is made by those who are in it."

WHEN the purchase, charter or sale of a yacht is contemplated there naturally arises the question of the best method to go about it. Nowadays, each profession or business has its specialists, and this is true of yachting. Formerly, when the number of yachts and yacht clubs was smaller, the man with a boat for sale told his friends of the fact, or perhaps notified the secretaries of some of the clubs, and in this way many sales and charters were brought about. But, with the constantly increasing number of steam, sail, auxiliary and motor yachts and house boats, it has been found necessary to have special agencies, or clearing houses, for their transfer.

Hence the existence of the modern yacht broker with his trained force for gathering data of yachts that are for sale and charter, classifying these data for ready reference and submission to intending purchasers and charterers, preparing plans and procuring photographs so that the customer may make his preliminary survey of the field with the greatest intelligence and the smallest expenditure of time and money. Indeed, this information is often so complete that buyers sometimes become the owners of yachts without having first seen them. Every effort is made by the leading brokers to avoid misrepresentation, unintentional or otherwise, and as a result the information furnished is remarkable for its accuracy, especially when the number of boats available is considered and the liability of changes in their accommodations, price, location, etc. Therefore, a yacht broker must see to it that he does his work conscientiously and well or he will be displaced by another who is more efficient.

It would seem, then, the part of common sense to employ a broker when selling, buying or chartering yacht property. The following suggestions are offered with a view to giving boat owners a better insight into the whole matter of buying and selling boats and of the standards that should prevail between broker and client. The standards are those already accepted by the leading firms in the business, and if they are followed purchases can be made with the utmost satisfaction, and sales which do not always occur as soon as desired will frequently be brought about more promptly, while annoyances from conflicting claims for commissions will be avoided.

When it is desired to perform a difficult engineering feat the most eminent man in that line is retained. This plan should likewise be followed when buying or chartering a yacht. After due investigation, the most reliable and responsible broker should be selected. He should be told that the buyer is placing himself in his hands, and that there will be no change unless for some good cause. Then, if the agent is the right sort, he will work harder to effect a transaction than he will if the customer is one of those who believe in "shopping" among this broker's competitors. If given the opportunity, the broker knows that he can get what is wanted if it is to be had in a yacht already built. With the possibility of earning a commission varying in inverse ratio to the number of other brokers who have been approached by the buyer, it is not human nature for an agent to labor as earnestly for the man who "shops" as he will for the one who pays him the compliment of choosing him to accomplish the buyer's purposes.

Every good broker has customers who give their business to him alone, and it is best, from his point of view, to center his efforts on these in order to continue to please them and hold their patronage. His reward is surer in these cases, while, as an additional incentive, these satisfied customers often send their friends to him.

Competition is said to be "the life of trade," but this is not true invariably, and certainly not from the yacht *buyer's* standpoint, although it is from the seller's, as will be told later. The wide-awake brokers have on their lists all the attractive offerings and desirable bargains. When a customer appears for a craft of a certain size and type, those available are submitted, and the owners communicated with relative to any recent change in price, etc. Usually the buyer's name is not mentioned to the seller. Now, if this prospective purchaser has talked to several brokers, and these in turn to the owner, the latter concludes that he has several opportunities to sell, and this makes him firmer in his price. Thus, the buyer often spoils his market.

On the other hand, when an owner wishes to sell or charter a yacht he should place it with several agents, because if a yacht is given to only one broker, many chances to sell are lost. Therefore, a yacht owner is not well advised if he is persuaded to put the yacht exclusively in one broker's hands. A yacht broker who has the best interests of any owner at heart will tell him to allow several agents to offer his yacht. In this instance competition is surely the life of trade, and each broker tries to sell or charter the vessel before someone else. The owner should, of course, state that the commission will be due and payable to the concern who actually brings in the purchase or charter money, and that the boat may not be offered unless this condition is agreed to.

Sometimes an owner may wish one firm to take entire charge of his yacht, supervising repairs, fitting out and laying up, hiring crew and making all expenditures. Very good. If the yacht later comes on the market the owner may ask that firm to so notify some of the other brokers, giving them full particulars, photographs, plans and price. But the owner should instruct his principal broker to say that all offers can be submitted direct to the owner. Otherwise, even if the first broker tells the others that full commissions will be allowed if a sale or charter is made by the others, human nature again may interfere with expected results, as every broker has a constitutional aversion to giving his competitors information about what he is doing. It is sometimes necessary to present a customer's name to an owner. This is the last thing that any broker wishes to divulge to one of his competitors. Then, too, various other confidential matters are apt to arise which the buyer may prefer not to have known to a fourth party, but of which the seller must be informed. Quite as important is the consideration that an intervening broker, be he ever so conscientious, will fail to place before an owner a proposition with the same enthusiasm or directness as the broker who has succeeded in obtaining the offer from the prospective purchaser or charterer.

Another bad practice that occasionally comes to light is the offering of yachts at a lower than the *bona fide* "asking price" named by the owner. A yacht should be on each broker's books at the same price, and this price cutting can only be avoided by not giving a yacht to an agent who uses such methods. An agent who does this will as readily cut the figure named to him by another broker as by an owner. An agent discovered quoting a lower "asking price" than that authorized should be made to withdraw the yacht from his list, as it depreciates the value of the property, misleads the buyer, often spoils a sale and accomplishes no useful purpose. This price cutting is usually done with the idea of making the purchaser believe that the broker has the inside track with the owner. It is, of course, perfectly legitimate for an agent to state what figure he *thinks* will buy a yacht, but the "asking price" must not be changed except by the owner.

This suggests a final observation—for whom is the broker working, the buyer or seller? It is not as difficult as it may seem to answer this question. Customarily the seller or owner pays the broker's commission, and the latter is therefore legally the agent of the former. If the offer is "net" to the owner, and the buyer or charterer pays the commission, then the broker is the latter's agent.

The broker naturally wishes to make as many friends as possible, for a seller may at any time become a buyer. Consequently the broker who desires to build up a solid foundation for his business will deal fairly with both the principals, will ignore anything which might bring him a temporary advantage, and will use every proper endeavor to bring the minds of the interested parties to a mutually satisfactory agreement.

YACHT CLUBS NEED NOT BE OF USE ONLY DURING THE WARM WEATHER. A GROUP OF NEW ROCHELLE YACHTSMEN IN WINTER COSTUME

The Inter-Yacht Club Trap-Shooting Championship

By B. R. STODDARD

WITHIN the last few years the yacht clubs on Long Island Sound and Gravesend Bay, in the vicinity of New York, have taken up trap-shooting, not only as offering a winter recreation for their members, but also as a means of keeping up the interest in the clubs the year round, and utilizing club property at other periods than only during the comparatively short boating season.

DU PONT TROPHY FOR INTER-YACHT CLUB CLAY BIRD TEAM MATCH. WON BY THE NEW ROCHELLE YACHT CLUB

Traps and shooting platforms have been installed at many of the clubs; teams have been formed; inter-club matches arranged, and this last winter an organized inter-club series was formed for the purpose of promoting the rapidly growing interest of yachtsmen in clay target shooting.

By winning the final shoot of this series at Bayside, Long Island, on March 21st, the New Rochelle Yacht Club captured the championship of Long Island Sound and Greater New York. The series consisted of three contests, and not only carried the championship title, but also a valuable shield offered by the Du Pont de Nemours Powder Company.

The yacht clubs that were expected to compete were: New Rochelle, Bayside, Manhasset Bay, Marine and Field, Port Washington, Larchmont, Stamford and Indian Harbor, but only the first five of these entered teams. The conditions permitted each club to be represented by ten men, from which were picked the five highest scores. There were to be three contests of 100 targets each, at 16 yards rise, and a club scored a point for each club which it defeated. At each shoot there was a prize for high gun; there was a prize for high average for the three shoots, and each man on the winning team received a handsome watch-fob from the Du Pont Company.

The first of these events was held at New Rochelle, on February 21st, where 40 men shot at four thousand clay birds, which were thrown from two traps during two hours, which is at the rate of one target about every 3½ seconds from each trap, a record for smooth-working arrangements and good management that elicited much praise; also, it was conceded that the traps and stands compared favorably with any in the Eastern States.

New Rochelle had a good representation of her best men, and won from Marine and Field, with Manhasset Bay third and Bayside fourth, thus giving New Rochelle 3 points, Marine and Field 2, and Manhasset 1. New Rochelle's team on this occasion was composed of Dr. G. H. Martin, G. P. Granbery, G. F. Pelham, Z. C. Offutt and either H. S. Bullock or W. T. Brennan, each of whom scored 83 "kills."

(*Continued on page 322*)

The Early Races for the America's Cup

How the Cup was won in 1851, and how it was deeded to the New York Yacht Club. Queer sporting ethics of the period

By HERBERT L. STONE

THE AMERICA AS SHE APPEARED WHEN LAST IN COMMISSION AFTER BEING REBUILT SEVERAL TIMES

THOUGH the events connected with the winning of the America's Cup, which Sir Thomas Lipton is going to try for the fourth time to take back to its original home, are pretty familiar to the majority of yachtsmen, yet there are certain interesting facts concerning that race about which little has been handed down, while almost nothing is known of the early races held in this country for the Cup that, to-day, holds a position that no other racing emblem has attained.

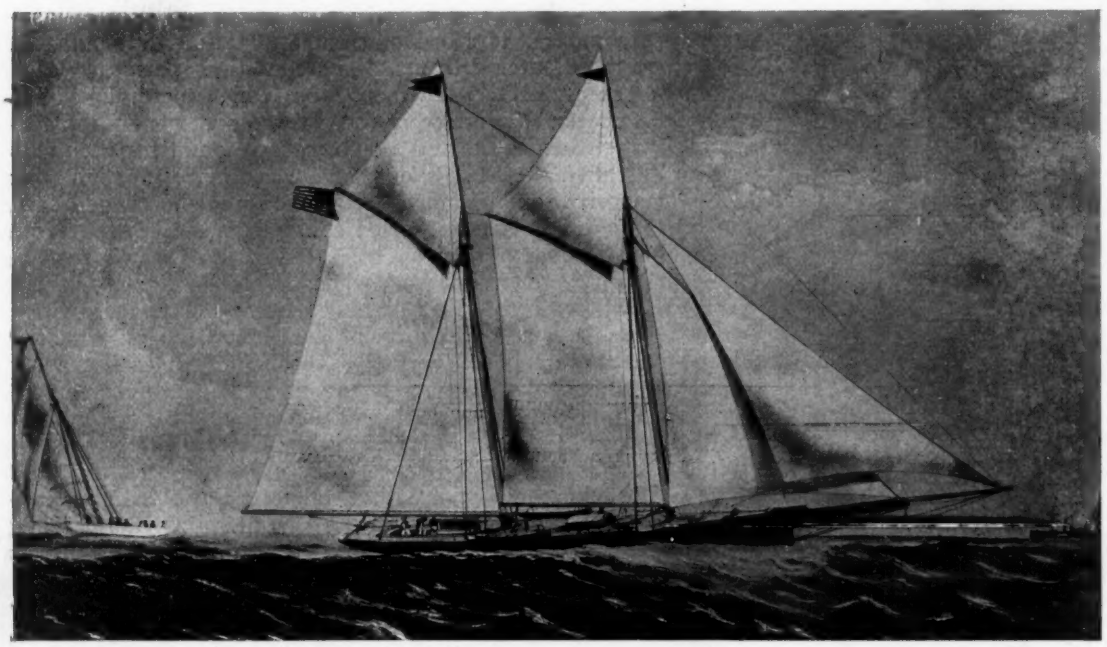
For instance, probably very few know how it happened that the America, the first of our yachts to cross the ocean to do battle with a foreign nation, happened to take that history-making trip sixty-three years ago, or how she was received in that conservative and exclusive yachting center, the Solent; nor are they aware how much sporting ethics, and the sense of fair play, differed in the early seventies, when Mr. Ashbury tried to do what Sir Thomas Lipton is endeavoring to do this year, from what they are to-day. Then, the accepted standard in yacht racing was that "a good match is won when made," and we proceeded to see how little chance we could give the other fellow, and get away with it.

So, while waiting for the four boats that are to figure in this year's races to go overboard or to take their sail-stretching spins in anticipation of the hot work of the summer, let us look back over the three first contests for the inartistic bit of silver, and see how they reflect the yacht racing of that day.

In the year 1851 there was to be a great world's fair in England, and towards the fall of 1850 some of the promoters of this affair wrote the New York Yacht Club, inviting it to send over a yacht to represent America in some races on the Solent that were to be held as an auxiliary of the Exposition. At that time most of the English yachts were schooner rigged, and, as the fame of the New York pilot boats had already gone abroad, it was suggested that one of these boats be sent over. The idea appealed to Commodore Stevens, of the young but vigorous New York Yacht Club, as he was a thorough sportsman, and he set about organizing a syndicate, of which he was the moving spirit, to build a suitable boat to represent this country abroad, not being satisfied to pick an existing boat, as had been suggested. This was the first syndicate boat of the New York Yacht Club.

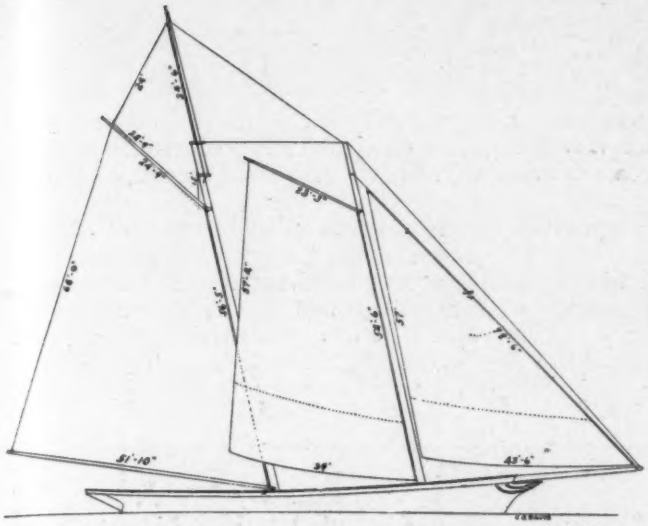
For the model of the new yacht the syndicate went to George Steers, a young man 30 years of age, the son of an English shipwright who came to this country some years before his son George was born.

In 1849 young Steers modeled and built the pilot boat Mary Taylor, in which he discarded the previous theory of design, the "cod's head and mackerel tail" model of bluff, round bows, full forebody and long, clean run, and practically reversed this general form, making the bow long and sharp, moving the greatest breadth farther aft, and filling out the afterbody; in other words, turning the existing model nearly end for end. This boat was a great success, as she outsailed all the pilot boats of the time and immediately made a name for herself and for Steers. So successful was she that other builders were soon imitating and following her model in their future vessels

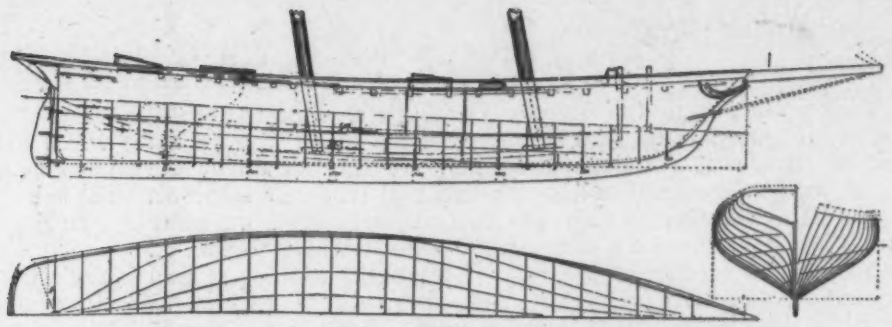


THE FAMOUS OLD MARIA AFTER SHE WAS ALTERED TO A SCHOONER. SHE WAS THE TYPE OF AMERICAN YACHT PRIOR TO THE COMING OF AMERICA

This new yacht, the America, was built at the yard of W. H. Brown, at the foot of East Twelfth street, New York. She was a keel boat, instead of the prevailing centerboard type then so common in American yachts on account of the comparatively shallow water on our Atlantic coast, bays and sounds. In form she followed the new theory evolved by Steers in the Mary Taylor, having a sharp entrance. with concave forward sections, beam carried well aft, and a fairly easy run. Her principal di-



SAIL PLAN OF THE AMERICA, AS TAKEN OFF BY C. G. DAVIS FROM THE ORIGINAL PLANS IN WILSON'S LOFT, PORT JEFFERSON



LINES OF THE AMERICA, TAKEN OFF WHILE THE YACHT WAS IN ENGLAND

mensions were: Length over all, 101 feet 9 inches; length waterline, 90 feet 3 inches; beam extreme, 23 feet; forward overhang, 5 feet 6 inches; after overhang, 6 feet; draft extreme, 11 feet. The mainmast was 81 feet long, and the foremast 79 feet 6 inches, and they had an excessive rake.

The voyage over was made in twenty days to Havre, France, where she arrived July 11, and remained some weeks to refit. Some excellent daily runs were made, the highest being 284 miles, while on six days over 200 miles were logged in the 24 hours.

The last of July, with her stores and spare gear still on board, she sailed from Havre for Cowes, Isle of Wight. That night was calm, with a thick fog, and the America was forced to anchor some six or seven miles from Cowes. When the breeze came in the following morning and blew the fog away, the English cutter Laverock, one of their crack boats, ran down from Cowes, expecting to meet the stranger, and with the intention of trying her mettle then and there. She found the American boat just weighing anchor, and hung around her persistently to force her, if possible, into a trial of speed.

Commodore Stevens might have ducked an issue then; might even have killed his boat so as not to show her true speed in order to further his cause, for he was looking to arrange future matches, and it would have been to his advantage not to show too much speed just then. However, seeing that he could not gracefully decline a brush, he gave the orders to "let her go," and, with sportsmanlike instinct, tackled the Laverock for all there was in his boat.

It was a beat back to Cowes, and in the few miles intervening the America worked out to windward surprisingly fast, finishing well ahead of the Englishman; and it is said that not many hours afterwards it was known throughout the yachting community that no English yacht was the America's equal in going to windward.

This little brush proved a serious drawback to the making of a match race, and no English yachtsman cared to come forward to sail the America. Commodore Stevens offered first to match her against any schooner, and later against any cutter as well, in any sum from one to ten thousand guineas. This offer was not accepted, and the Royal Yacht Squadron apparently made no effort to arrange a special race with their fastest boat, but it notified Commodore Stevens that there was to be a regatta of the club around the Isle of Wight on August 22d, for which all of their boats would be eligible, to be sailed without time allowance, and that the America would be welcomed if she desired to enter. This was for a trophy put up by the club, valued at 100 guineas. The America's party decided to enter the race, provided there was a good breeze, but not otherwise.

In this race were fifteen cutters and schooners ranging from 47 to 392 tons. The fleet was, as a whole, a representative one—several of the yachts being fast racing cutters. The chances of success in entering one yacht against such a fleet as this were not bright for the America, especially as a good part of the course was not in open water, but in the narrow, land-bound stretches round the north side of the Isle of Wight, where local knowledge of winds and tidal conditions counted for much.

In those days the start of a race was made from an anchor, instead of a sailing start, as is now the custom, the boats hoisting sail and getting under way when the starting gun was fired, thus testing ability in handling as well as speed alone.

The fleet was lined up in a double row, the cutters in the first line and the schooners some 300 yards astern of them. The preparatory signal was given at 9:55 A. M., on which the yachts made sail, and the starting gun at 10 A. M., when they were to cast off and get under way. America was slow with her sails, and was the last of the fleet to get away. One of the most graphic accounts of the race is that of Henry Steers, nephew of the designer, who was aboard the America while she was abroad. In describing the race many years later he said:

"The wind was from the westward. The yachts were allowed to get up their sails after the first gun, but we found that we constantly overran our anchor and slewed around, and we had to lower our sails; and so all the yachts got off ahead of us. However, we had a large crew, and got our sails up very quickly. By the time we got to the Nab (12 miles) we had walked through the whole fleet except four—these were the Beatrice, Aurora, Volante, and Arrow. We were running wing and wing, and these boats would steer close together, so that when we tried to get through them we could not without fouling, and had to keep cutting and sheering about, very often being near jibing. From the Nab to St. Catherine's the wind was ahead (it had shifted to S. S. W., and was of variable strength), and there we left them so fast that when we got down to the Point there was not a yacht in sight. Here we caught the tide, and for a long time made little way beating against it, and the little Aurora came up pretty near to us, and the Arrow was just behind her.

"After getting by St. Catherine's Point we had a leading wind, and we went from there to the Needles at the rate of 13 or 14 knots. Off St. Catherine's we carried away our flying jibboom, and I remember that Dick Brown said he was d——d glad it was gone, as he didn't believe in carrying a flying jib to windward. We arrived at Cowes about eight o'clock." The flying jibboom referred to had been added in England to allow a flying jib to be carried.

It was 5:40 P. M. when the America rounded the Needles, and at that point it was estimated, by the best English authorities, she was a good eight miles ahead of the second boat, the little Aurora, with the rest of the squadron (what was left of them, at least) out of sight astern. Here the wind fell light again, with the tide ahead, and in the run up the Solent in the early evening the Aurora gained, being only about two miles astern at the finish. As she crossed the finish line in the darkness, the Yankee yacht was timed at 8:34 P. M. and the Aurora at 8:58. Then came Bacchante at 9:30; Eclipse, 9:45, and the big Brilliant at 1:20 A. M. the following morning, the times of the other boats not being taken. Though the race was sailed without time allowance, there was but little comfort for the British yachtsmen in this fact, for by Acker's time allowance scale, then in use, the Aurora would still have been beaten by about two minutes had she received her allowance.

The next day the owner of the Brilliant protested the America on the ground that she had passed on the wrong side of the Nab Lightship, but as the instructions given to the America did not specify on which side to pass it, the protest was not allowed.

The trophy won by the America in this race, while frequently called the Queen's Cup, had, in fact, nothing to do with Queen Victoria, and was not donated by her. It was put up by the Royal Yacht Squadron, and is called by that name, or is known as the Hundred-Guinea Cup (its cost at that time), or, more familiarly, the America's Cup, after the boat that first won it. It became the permanent property of the yacht winning it, and Commodore Stevens brought it back to America with him, as practically the only spoils of their summer's campaign.

The Queen did put up a cup for a race on August 25th. The America did not start in this event, probably because the breeze was too light at the start. She did get under way some hour and a half after the others, and sailed over the course after them, finishing a few minutes after the winning boat, though, of course, not being timed.

In 1857 Commodore Stevens and the other members of the syndicate turned over the Cup won by the America to the New York Yacht Club to be held as a perpetual challenge cup to the yachts of all foreign nations of between 30 and 300 tons measurement. Though every foreign yacht club was notified of this fact, thirteen years were to go by before a race for it was held.

(To be Continued)

MESS ROOM TALK

IN this Department we will answer questions concerning the problems which boat owners are constantly running up against in the operation of their motors or the handling of their boats. Theoretical as well as practical questions will be answered promptly by mail, and when of sufficient interest will be printed for the benefit of YACHTING readers. This service is free. Don't hesitate to make use of it. Address, Information Department, YACHTING, 141 W. 36th St., New York City.

Figuring Horsepower in Marine and Automobile Motors

CANTON, ILL.

For a point of information, I would ask for your rule for figuring the horsepower of a gasolene motor for marine service, also for automobile service, the difference and why? Do you consider an automobile motor suitable power for a motor boat? I have been in communication with different manufacturers for a 30-horsepower motor, and I find that different manufacturers give different ratings for the same sized motor of the same bore and stroke. I would appreciate your formula of the standard way of figuring those motors. G. W. F.

A good formula for determining the horsepower of a marine gasolene engine is $H.P. = \frac{D^2 \times L \times R \times N}{K}$, in which D equals the diameter of cylinder in inches, L the length of stroke in inches, R the number of revolutions per minute, and N the number of cylinders. K is a factor varying with the type, size and cycle of the engine; for four-cycle motors K may be taken about 14,000; for two-cycle motors it is about 10,000. The A. L. A. M. formula, $H.P. = \frac{D^2 \times N}{2\frac{1}{2}}$, used for determining the horsepower of automobile engines, gives $K = 15{,}000$. This factor K is not a constant, but varies with the excellence of the design and workmanship of a motor. The values given are good averages.

The variations in ratings by different manufacturers are largely due to the practice of rating the engines at different revolutions per minute. Indeed an engine is often given two ratings by its builder, depending on the speed at which it is run.

As a general thing an automobile motor is not suitable for use in a boat, as it is usually not designed to run at full load for extended periods. An auto motor might do very well for a light, fast launch, which is usually run at moderate speed, and "opened out" only occasionally. In a cruiser or other heavy boat, a properly designed marine motor is the only thing to use. Such craft are run with wide open throttle all the time, and the service may be compared to running an automobile on low gear up a steep hill for hours at a stretch. The automobile motor is not designed for such service.

Propeller for 28-Foot Auxiliary

BROOKLYN, N. Y.

I would like to have information regarding a propeller for my boat, which is a fin keel sloop 28 feet long on waterline, 9 feet 6 inches beam on waterline, and 4 feet 8 inches draft. This boat has fair overhangs fore and aft and good flare.

I have a 9-horsepower two-cylinder L————, and want to use two-bladed propeller, because I don't want to reduce speed much while sailing. This engine develops its power at about 800 revolutions per minute. F. E. H.

Eight hundred revolutions is a pretty high speed for this type of boat. For an auxiliary to get this number of revolutions it would need a two-bladed wheel about 17 inches or 18 inches diameter by 20 inches to 22 inches pitch. If you used a larger wheel the engine probably would not turn it over at the designed speed. To minimize drag I would advise your getting a feathering propeller. These can be had that will feather automatically, making almost no drag on the boat, the blades pivoting on a pin on the hub. If you use a solid wheel you can, of course, by marking the shaft, always stop it perpendicular with the dead wood, and thus minimize drag.

Air Bubble in Compass

BROOKLYN, N. Y.

Can you give me information on the following: 1. In a yawl when under way under sail power, from which sail is the ensign flown, the mainsail or the jigger? 2. In my compass, made by Riggs, of Philadelphia, an air bubble has appeared. Do you think this bubble will cause it to deviate, and if so, do you think if I unscrew the face-plate and add more alcohol I will affect its magnetism? A. C.

In a yawl under sail the yacht ensign is flown from the jigger peak.

In regard to your compass, I would say that an air bubble, if it is only a small one, will not cause any deviation in your compass. In fact, the air bubble itself will not cause deviation, though, if it was large enough, it would affect the sensitiveness and proper working of the compass. You will usually find a filling hole in every compass, so that it is not necessary to take off the face to fill it. To remove a bubble, remove the false bottom and place the compass on its side with the filling hole up; take a few turns out of the screw in the filling hole enough to let the air out, and, with a gentle pressure on the expansion chamber, force the bubble out, and then tighten the screw in the filling hole to its full due. If the bubble reappears after a few operations of this kind, the bowl is probably leaking, or the compass needs new packing.

Engine for Small Auxiliary

HARRISBURG, PA.

I propose to have a motor installed in a 20-foot V-bottom catboat, built after the design of C. H. Dodd, as shown in YACHTING in December issue, 1913. I want a single-cylinder motor from 5 to 8 horsepower. Any information you can give me on the subject of the best type of engine for this particular use will be very much appreciated. R. A. S.

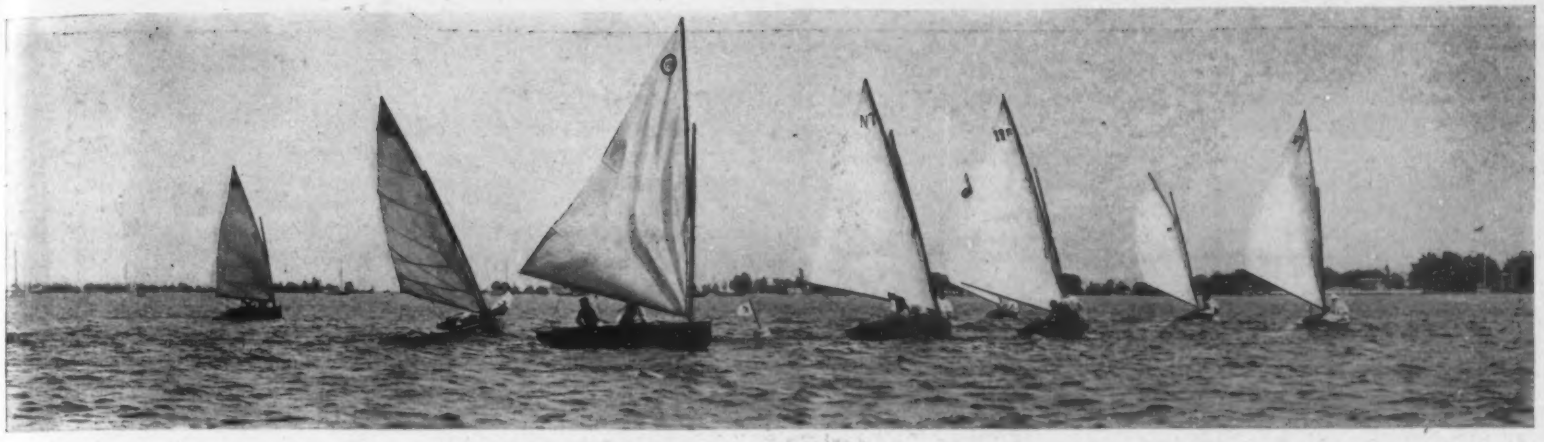
As a general proposition you would need for such a boat as you mention a two-cycle engine, known as the heavy-duty type, and one that would develop its power at from 400 to 550 revolutions per minute. You do not want to get a high-speed, lightweight engine, as that would turn up too fast to give satisfactory service in a heavy boat such as you mention. A suitable engine would weigh from 200 to 300 pounds, depending on the horsepower.

If you are going to use your boat on salt water you want to be sure that you get salt water fittings with it. Most engines made on the Atlantic coast are already fitted with salt water shafting, pump, etc., but some of those made in the West have salt water fittings only when specified by the buyer.

Cleaning Clogged Gasolene Line

ODANAH, WIS.

Can you tell me the best way to clean out the gasolene feed pipe (between tank and carburetor) on a marine engine? I have never been



ROUNDING A MARK IN A 14-FOOT DINGHY RACE ON TORONTO BAY

troubled with this before and will be very much obliged for any information you can give me. D. J. M.

We suggest that you disconnect your feed pipe at tank and carburetor, and run a wire through it. If you cannot get a wire through on account of bends or fittings, you might connect a bicycle pump to one end and blow out the obstruction. If you blow dirt back into the tank it is apt to give you trouble again in the future. Gasolene feed pipes should be of generous size, and have a shut-off cock at tank and at carburetor.

Ballast for a 16-Footer

BRIDGEPORT, CONN.

I am the owner of a small centerboard sailboat, 16 feet over-all and 4 feet 3 inches beam. The keel is very straight, running the full length of the boat, having a skeg about 8 inches deep. The question is, whether I can make an improvement by sawing off the skeg? The boat as it is seems to be balanced pretty well with regard to sail. She is rigged with a balanced lug sail of about 85 square feet; the mast is set 2 feet 6 inches from the bow; boom is 14 feet 6 inches long. She has a tendency to be slow in coming about, and unless handled carefully gets caught "in irons." I am pretty well satisfied with her in regard to speed when sailing against other boats of her size, but find I lose ground when coming about. What is the proper weight for ballast if there are two people in the boat? Any suggestions as to changes would be much appreciated by C. R. T.

If your boat is well balanced now under sail, we doubt whether any improvement could be made by sawing off the skeg. If you saw this off aft it would disturb the balance, and you would probably be unable to remove any of the lateral plane from forward to make up for this.

As for slowness in stays, this can be helped by shifting weights as you go about, letting a man step quickly forward as you put the helm down, and then having him come aft as she gets head to wind. With only 85 square feet of sail we doubt if you need any ballast whatever with two people in the boat, but, whenever sailing alone, a 25-pound sandbag or two will be found very convenient.

Driftwood from Alongshore

Trophy for International 14-Foot Dinghy Racing

Nowhere is dinghy sailing and racing more popular than on Toronto Harbor, Lake Ontario, where a big fleet of these little fellows is owned. At other points on the Great Lakes dinghy sailing is rapidly coming into popularity, and in order to foster the growth of these handy little boats Commodore Douglas, of Toronto, has donated a perpetual challenge cup for international racing in the 14-foot dinghy class, and the clubs on both sides of the Lakes have been invited to send boats to Toronto for the first series for the cup. The principal conditions governing the trophy follow:

I, James Douglas, of the City of Toronto, County of York, Province of Ontario, Canada, do hereby give and grant to the Toronto Canoe Club, of Toronto, Canada, a silver cup, to be known as "The James Douglas Challenge Cup," to be held by the said club in trust, upon and under the following conditions:

1. The said cup shall in the season of 1914 be sailed for under the auspices of the Toronto Canoe Club at Toronto, Canada.

2. The club, of which the owner of the winning yacht in said series is a member, shall be the first defender of the said cup, and entitled to possession thereof as hereinafter provided.

3. Competition for the said cup shall be open to dinghies 14 feet racing length, built under the rules and regulations of the Lake Sailing Skiff Association, but no club can have more than one entry in any race.

4. Subsequent to 1914 any club belonging to the country, other than that to which the defending club belongs, may challence in writing for said cup, said challenge to be received by the defending club prior to the first day of July in each year in which the race is to be sailed, and the said challenge shall be immediately accepted, in writing by the defending club. A series of trial races open to all clubs of the same country shall be held to select a challenger.

5. A time during July or August in each year for the races shall be mutually agreed upon by the challenging and defending clubs.

8. Every competition for said cup shall consist of three races, sailed on consecutive days so far as practicable. * * *

10. If, after July 1 in each year, no international challenge has been received, this trophy shall be then open for competition between home clubs, one representative boat from each club to compete.

Bermuda Race Entries

Four positive entries have been listed by the Yachtsmen's Club for the Philadelphia to Bermuda race. Two more entries are under consideration, but have not yet been signed up. The entries so far are: Dream, Commodore Charles L. Lagen; Tec, William T. Wheeler, New York; Judy VI, William Wallace, Boston, Mass.; Neptune, Lawrence Dunn, Pelham Bay Yacht Club, New York.

The start of the race will be Saturday, June 6, from the Race Street Pier, Philadelphia, time and place corresponding with that of a year ago. The St. George Yacht Club, of Bermuda, has offered a second cup for the race, which will probably be made a prize for the best time.

Columbia Yacht Club Fixtures

The Columbia Yacht Club of New York announces the following schedule of races for power boats, rules of the A. P. B. A. for 1914 to govern:

June 6—Open race for all classes, over the course in front of the club house. Class 1, open boats with speed of less than 14 miles an hour, 10 miles; Class 2, high-speed boats, both displacement and hydroplanes, 30 miles; Class 3, cabin cruisers; Class 4, semi-speed boats, open boats and runabouts with speed over 14 miles and less than 20 miles per hour, 15 miles.

July 11—Stratford Shoal Light race. Open to all cruisers under 55 feet over-all length. Start from club house, out to and around Stratford Shoal Light and return.

September 19—Club races in three or four classes. To be held over the course at the club.

October—A speed championship race for the club will be held early in October over a course of 60 or 90 miles.

The race committee are Henry G. Pearson, chairman; James Simpson, Daniel B. Brinsmade, M. D., Charles S. Baeder and W. W. Brinckerhoff.

United States Power Boat Squadron Examining Boards

In the United States Power Boat Squadron the following boards of instruction and examination have been appointed to act in the respective districts named and to serve until relieved from duty by order of the commander or by direction of the governing board:

For District No. 1, Coast of Maine and New Hampshire—Chairman, Holman F. Day, Vice-Commander U. S. P. S.; Reuben K. Dyer, Commander Portland Yacht Club; F. C. Talbot. For information about this board address Vice-Commander Holman F. Day, Box 203, Portland, Me.

For District No. 2, Coast of Massachusetts and Rhode Island—Chairman, Roger Upton, Commander U. S. P. S.; William A. Hopkins, Lieutenant-Commander B. Y. C. P. S.; N. L. Stebbins, Flag Lieutenant U. S. P. S. For information about this board address Flag Lieutenant N. L. Stebbins, 132 Boylston Street, Boston, Mass.

For District No. 3, Rhode Island and Connecticut Line to Hell Gate—Chairman, Frank S. Cornwell, Commander C. N. G., retired; Osborne A. Day, Lieutenant-Commander C. N. G.; John K. Murphy, Lieutenant-Commander C. N. G., retired. For information about this board address Commander Frank S. Cornwell, 1032 Chapel Street, New Haven, Conn.

For District No. 4, Hell Gate to Sandy Hook (excluding Hudson River), and District No. 5, Hudson River—Chairman, C. F. Chapman,

Life-Saving Report The annual report of the Life-Saving Service for the fiscal year ending June 30th, 1913 (Treasury Document No. 2,703) has just been received, and should be of interest to all who ever use the sea. It is a record of unselfish devotion to duty—seldom found in peaceful pursuits—told in a matter-of-fact style, with tables of casualties, percentages, comparisons with previous years, etc., as usual in official reports.

One surprising feature is the large part that motor boats play, both in the work of rescue and in furnishing material for casualties. During the period covered by the report there were 1,038 motor-driven vessels involved in disaster, comprising 60 per cent of all marine casualties reported from the stations. In 579 of the 1,083 cases the cause of the accident was disabled engine. They carried 4,088 persons, or 45 per cent of the number of persons aboard the entire number of vessels of all descriptions reported. They contributed 5 of the 15 disasters attended by loss of life within the field of service operations. These five casualties caused the death of 17 of the 87 persons who perished within the territory guarded by the corps.

Comment has been made on the increase of work put on the life savers by the growth in numbers of gasolene-propelled craft. "The evolution of the gasolene boat covers little more than a decade," says the report. "In 1904, for example, a total of 88 motor-boat accidents was reported from the life-saving stations. This number was only 11 per cent of the total number of vessels included in the year's record of casualties." A table shows the increase from 1904 to 1913.

The motor lifeboat seems deservedly popular with the service, and the larger pulling boats are being replaced with motor craft. Besides the regular beach patrol and rescue work in connection with wrecked or stranded vessels, swimmers were saved, first aid treatment given to sick and injured, the apparently drowned restored to life, food and shelter afforded to those caught on the beach in bad weather, or bodies of the drowned recovered, personal property saved, smugglers detected, etc. Truly a comprehensive list of "miscellaneous services"!

Part of the book relating to salvage work contains a series of stories of unusual interest, such as lives saved from wrecked ships, capsized launches, disabled air-craft and houses in the flooded districts of Ohio and Kentucky; boys rescued just above the falls of the Ohio; a dismasted schooner, with pumps choked, towed into port; a schooner with decks awash boarded and kept afloat by constant pumping until towed in by a revenue cutter—all as part of the day's work.

The stories of the 62 medals of honor for life saving to those outside of the service are briefly set forth, and are all tales of self-sacrificing heroism.

The surfmen maintain a constant patrol of the beach, no matter what the weather, and are ready at any moment to risk life and limb in the rescue of those in peril.

Too Much Interference The foregoing brings to mind the great number of sea tragedies that have occurred in the last three years, entailing a loss of life which is high above the average of the past. In spite of all our safety appliances, the building of the supposedly unsinkable ship, the lessening of the time of passage and the improved methods for succor in cases of distress, the record of the Titanic, the Volturno, the Oceana and the Monroe in the North Atlantic, all in less than two years, is something that the past cannot equal, and leads one to wonder how much higher the figures might have been had it not been for wireless. Even in the old sailing ship days, while there were more vessels lost, there was no such toll of lives as this.

There are, of course, many explanations to offer. With the increase in the number of persons carried on one vessel, any disaster to that vessel naturally imperils a great number of lives. The establishment of fixed routes or "lanes" for steamers between regular ports, by contracting shipping in a relatively small area, increases the danger of collisions. Nowadays, outside of the crowded lanes, sighting another vessel is a rarer occurrence than in the days of the sailing ships. But the orders from the home office for passages at high speed, permitting little exercise of judgment by captains, may well be the cause of reckless navigation in the attempt to "make a passage."

Driftwood from Alongshore—Continued

treasurer U. S. P. S.; Capt. Moses W. Collyer, Leslie Huxtable. For information about this board address C. F. Chapman, 611 West 152d Street, New York, N. Y.

It has been suggested by the Navy Department, and approved by Commander Upton, that an assemblage of all power squadrons be held this year at some convenient time and place.

Narragansett Bay, being centrally situated, and from August 22 to 29, inclusive, because of completion then of the Cape Cod Canal, and because of the yachting activity off Newport, has been favorably considered for this gathering.

The different power boat squadrons should take the matter under consideration and report as nearly as possible how many boats each squadron can have in attendance.

Narragansett Bay Yacht Racing Schedule

The schedule of the Narragansett Bay Y. R. A. has been announced. The association was finally obliged to take the same dates for its race week as the Larchmont Club, as the opening of the Cape Cod Canal, the trials for the Cup racers off Newport and two solid weeks of racing in Massachusetts Bay have made it impossible to secure another date.

The racing dates for this year are as follows: May 30, Memorial Day, Fall River; June 6, Edgewood Yacht Club; June 20, Rhode Island Yacht Club; June 27, Bristol Yacht Club; July 4, Newport Yacht Club; July 11, Fall River Yacht Club; July 13, Rhode Island Yacht Club; July 14, Rhode Island Yacht Club; July 15, Rhode Island Yacht Club; July 16, Edgewood Yacht Club; July 17, Edgewood Yacht Club; July 18, Edgewood Yacht Club; July 25, combined cruise to opening of Cape Cod Canal; August 1 to 15, racing weeks of Massachusetts Bay clubs; August 22, Conanicut Yacht Club; August 29, Bristol Yacht Club.

Larchmont Yacht Club Appointments

Commodore James Elverson, Jr., of the Larchmont Yacht Club, announces, in General Order No. 1, the following appointments:

Fleet captain, Morton W. Smith; fleet surgeon, W. E. Bullard, M. D.; fleet chaplain, Rev. Richard Cobden; regatta committee, Horace E. Boucher, chairman; Errol Kerr, Henry L. Maxwell.

Don't forget that YACHTING is non-returnable on the news stands. Order your June issue from your news dealer NOW, or you may not get it.

Bail her out and there is the varnish as good as ever—

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The Varnish That Won't Turn White

You know how ordinary varnish shows a water-mark around the bottom of the boat if the rain is not bailed out immediately. The whole floor of the boat will be a dirty white. Bail out the water and the whiteness may disappear, but the damage has been done. Varnish which has once turned white has lost its life and elasticity and thenceforth is brittle and speedily wears out. Presently the inside of your boat is shabby and bare.

If Valspar is used there is a different story. The part under water smiles up at you as brilliant and clear as the part which has not been wet. Simply bail out the water—the varnish is as good as ever. It is just the difference between using the one varnish which cannot turn white in water and the other kind.

Use Valspar on the oars, and the blades will stay bright as long as the handles. Use Valspar all over the sailboat or motor boat. Use Valspar on the free-board. Water and the driving of the seas won't hurt it. In fact, use Valspar everywhere in marine work. It is the only really waterproof varnish and the only one really entitled to call itself a marine varnish.

Valspar costs more than other varnishes, but revarnishing costs more than Valspar.

Name of nearest dealer on request. A 4-oz. can will be sent on receipt of 10c. in stamps to cover mailing and package. Write for our practical booklet on finishing a boat.

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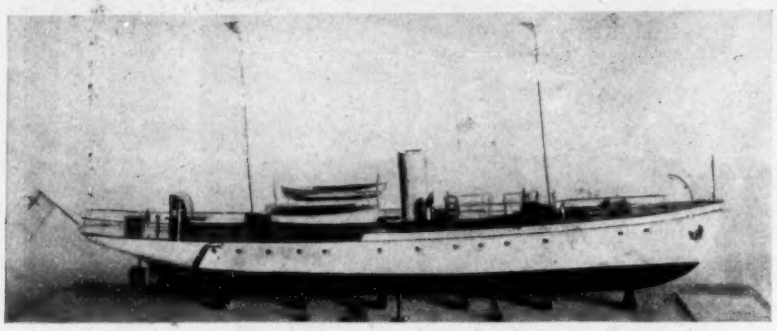
Of Interest to the Skipper

A 106-Foot Power Yacht

The model illustrated herewith is that of an ocean-going motor yacht being built from Messrs. Tams, Lemoine & Crane's designs by George Lawley & Son Corporation, of Neponset, Mass., for Mr. J. K. L. Ross, of Montreal. This yacht is 106 feet over all, 94 feet waterline, 16 feet beam, 6 feet draft. She is of heavy construction, with keel and frame of white oak, planking double, of cedar, copper riveted and copper fastened, making a smooth, stiff job. Sufficient sail



106-foot power yacht, designed by Tams, Lemoine & Crane, powered with two six-cylinder 200 horsepower Winton motors.

is carried to assist her materially when at sea. The boat is flush decked, having a large bridge deck and quarter deck, with shelter seat at forward end. She has a steamship stern and good freeboard. The main saloon is forward, and is finished in maple. A vestibule is forward of the saloon on the starboard side; next is the galley, the full width of the ship, with large ice-box, coal stove, ample lockers, boiler for hot water heating system, etc. Then comes the forecastle, with four pipe berths. Abaft the saloon is the engine room, with over 8 feet head-room.

In the after quarters are four staterooms and a bathroom, with an electric heater in each room. Going below aft, one enters a large vestibule; forward of this are two staterooms. On the port side is a bathroom. Aft are two staterooms, with folding wash basins, bureau, etc. The general finish below is white enamel and mahogany. In the extreme after end of the ship, entered by a separate companionway, are the captain and engineer's room. The water tanks, of 500 gallons capacity, are of heavy copper, tin lined. The struts, propeller, stern tubes, tail shaft, etc., are of Tobin bronze. She will carry two boats, one a 17-foot launch equipped with a 7-horsepower, six-cylinder Winton engine. She is designed to be one of the fastest ocean-going yachts of her size and type, having two Winton six-cylinder, 9-inch by 14-inch 200-horsepower motors. She also has two 3-kilowatt Winton six-cylinder generator sets and separate motor-driven bilge and fire pumps.

Abaft the motor compartment, fitted in watertight bulkheads, are four gasolene tanks, holding about 2,600 gallons. Her windlass is to be motor driven.

"Hyde" Propeller for the Steamer Roma

The Hyde Windlass Company, of Bath, Me., received a rush order March 5, 1914, from the Robins Dry Dock & Repair Company, Erie Basin, Brooklyn, N. Y., to furnish a Hyde manganese bronze propeller, with pattern and drawing for same, for the French steamer Roma.

The drawing and pattern were made and the casting poured March 16. After being bored, keyseated and finished, the propeller was shipped March 23; extremely good time, as drawing and pattern had to be made before work in the foundry could be started.

Sixteen tons of Manganese bronze were poured to take care of the casting, deadhead, runner, etc., the finished propeller weighing approximately 14 tons. The casting was as smooth as though it were but a 24-inch wheel.

This is said to be the largest solid Manganese bronze propeller ever cast in the United States.

The Hyde Windlass Company are stamping their trademark, a propeller, on all bronze launch propellers shipped from their works. No propeller is a genuine "Hyde" without this trademark.

A. B. C. Life Preservers

Down in Central America there grows a tree which the natives have used for centuries for making rafts. It is known as the Balsa wood, and is lighter than cork. When cut up into blocks and treated with a waterproofing compound, as the Welin Marine Equipment Co. do, it makes a more compact, yet more buoyant, life preserver than cork. The wood when so treated does not sweat, so that the canvas covering is not affected. The new law requiring motor boats to carry a life preserver for every person on board makes size a consideration, and the compactness of the A. B. C. life preserver is a valuable feature.

They manufacture also a small liferaft which will support eight persons in the water, and yet is light enough to be flung overboard by one man, and small enough to stow in a limited space on a small launch's cabin top.

Roosevelt Expedition Speak of Evinrude

A letter from Corumba, Brazil, has just been received by the Evinrude Motor Company from Mr. Anthony Fiala, official photographer with Mr. Roosevelt's expedition. Mr. Fiala states that the motor has worked exceptionally well, and when used by the members of the expedition has caused great interest among all who saw it, and that they are now taking it into the interior. This is not the first expedition that used the Evinrude as explorers and sportsmen are using it in all parts of the world.

Marine Glue for Many Uses

L. W. Ferdinand & Co., of Boston, Mass., say: "Marine glue is one of those things that nearly everybody has heard about. It was invented years ago, and most of the recipe books give directions for making it. It is called after the inventor, Jeffery. It is made in a number of different colors and grades suited for different uses. There is black, white, yellow and mahogany color, and there are some grades that are quite soft for laying canvas and the like. It is made to suit all sorts of special requirements, there being ten or twelve different varieties.

"A full list of what it is especially valuable for to the motor boat man is hard to make. In the first place it will make decks watertight. This can be done by filling the seams with No. 1 Marine Glue after calking, or by covering the deck with canvas laid in No. 7 Marine Glue. It will repair holes in canvas canoes; bulkheads can be made watertight; it can be used to keep compartments airtight, and will be found useful in many other ways "aboard ship."

Dash control of new six-cylinder, four-cycle 30/45 horsepower Gray motor

The New Gray VI

The Gray six-cylinder, long-stroke, four-cycle motor is not a made-over four-cylinder with two cylinders added, but an engine designed as a six. It is compact; the cylinders, which are 3¾ inches by 5¼ inches, being cast in sets of three. The cylinders and pistons are carefully ground, and each connecting rod and piston is weighed for balance. The heavy crankshaft is drop-forged from high tensile heat-treated steel. Lubrication is by a single bronze gear pump driving a stream of oil to each connecting rod, main bearing and gear.

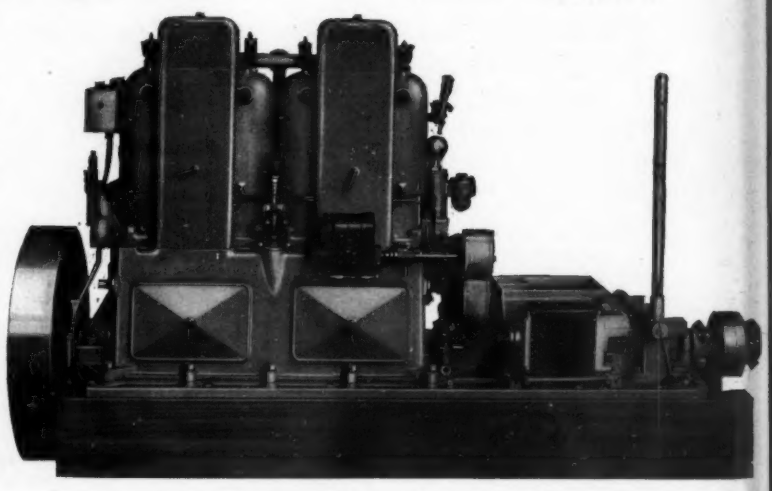
The engine base and sub-base are all aluminum, and the motor weighs 840 pounds. A special instrument board abaft the after cylinder carries carburetor and spark magneto control and oil gauge. Provision is also made on the board for a starting handle, where rear starter is used, and also has starter controls. The motor is designed to carry almost any type of self-starter, either electrical or air operated.

New Four-Cylinder 45-Horsepower Heavy-Duty Sterling

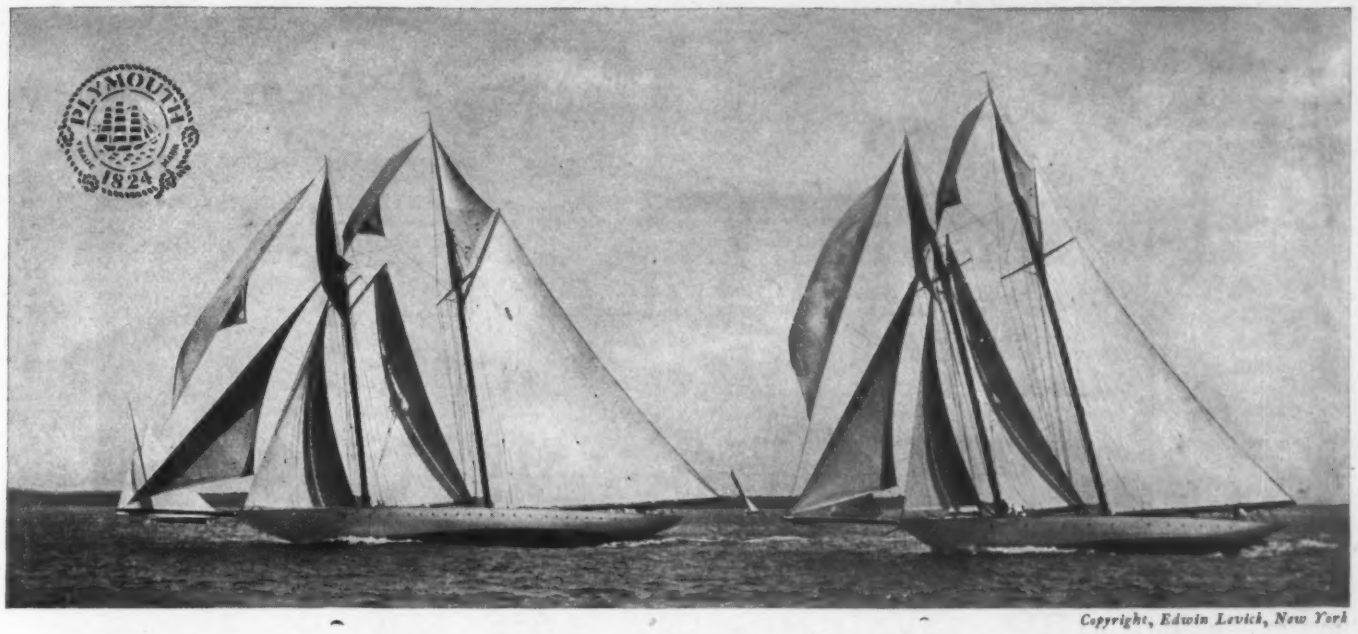
Illustrated below is a new model of the 45-horsepower, four-cylinder Sterling engine, and is a distinct advance in the construction and design of heavy-duty motors. All moving parts of this engine are completely enclosed, as the hand-hole plates and covers are held in position by single bolts. This feature makes the engine much quieter and cleaner in its operation.

A departure from previous models is noticed in the construction of the cylinders, which are now a combination of L-head and valve in the head. This motor will burn lower grades of fuel than the old one. Gas is taken in through a manifold

(*Continued on page 322*)



The new Sterling 45 horsepower, four-cylinder heavy duty en bloc motor



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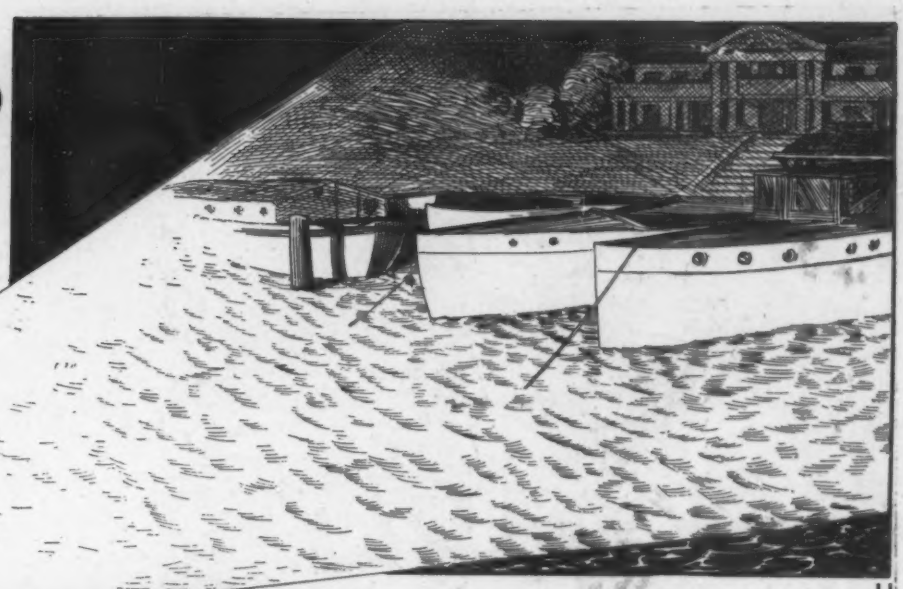

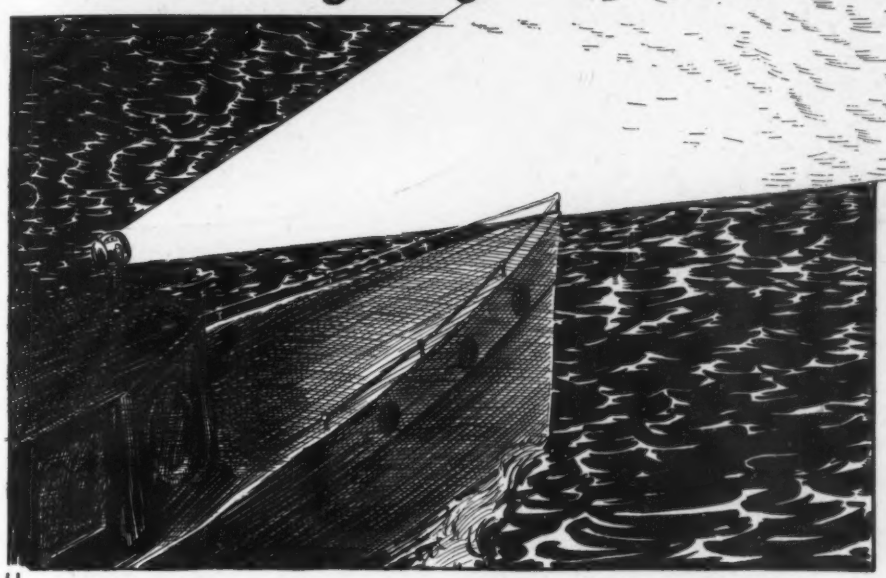

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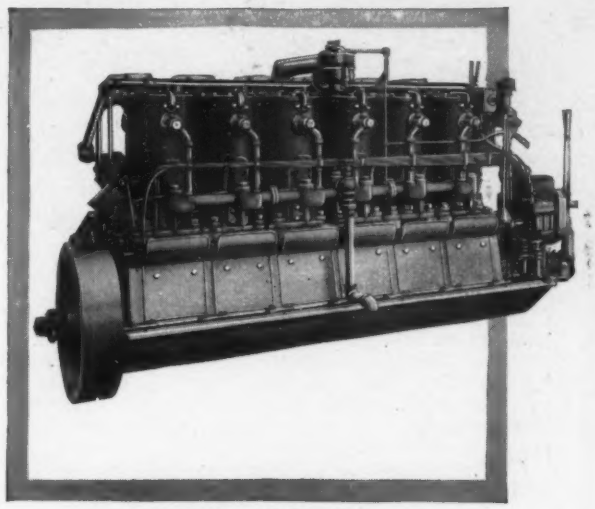

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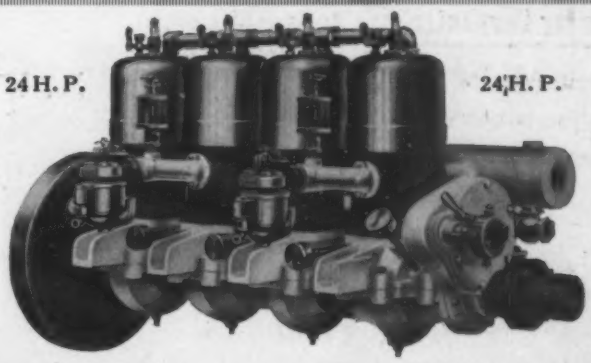

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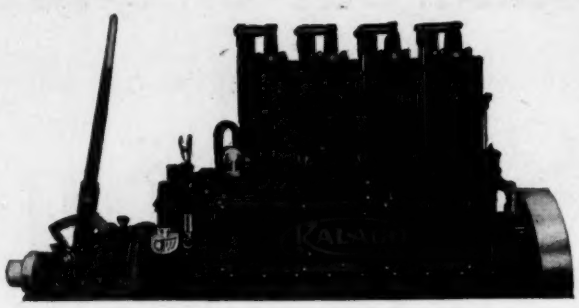

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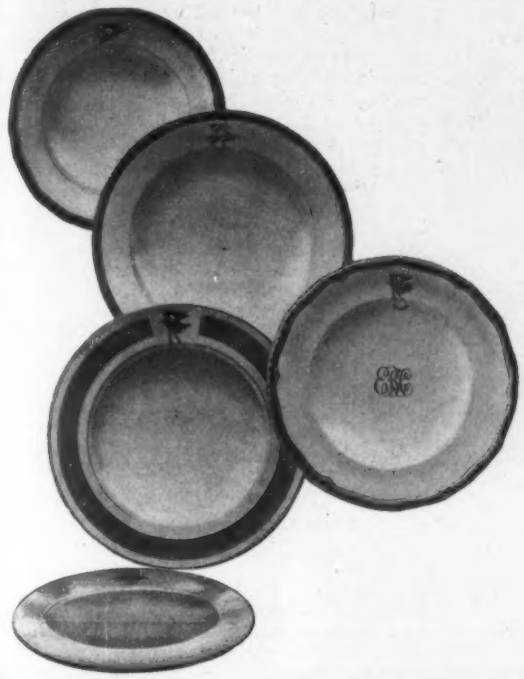

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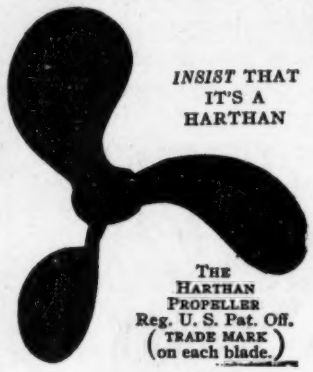

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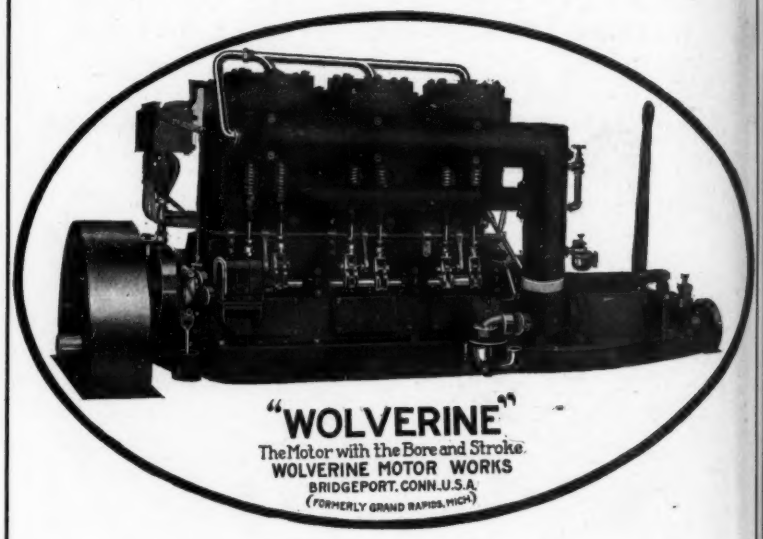

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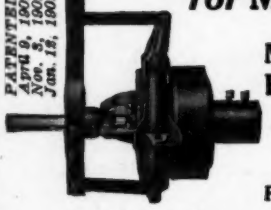

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(*Continued from page* 312)

cored through the exhaust manifold and then up to the top of the engine, thus being well heated, and it is possible to burn much lower grades of fuel than is the case with the average manifold.

In design this engine is simple and attractive. The cylinders are a combination L-head and valve in the head type, paired *en bloc*, cast from auto analysis semi-steel, bored and gound to size. Pistons are of hard (piston) gray iron, rough turned, heat treated and ground to size. Piston pins are .20-carbon open-hearth steel, hollow ground and hardened. Connecting rods are drop-forged from .35-carbon steel, annealed and heat treated. Crankshaft supported by upper base casting, insuring perfect alignment, and allowing bearings to be taken up without danger of straining parts. Lower base casting forms a support for the upper base, as well as supporting thrust bearings and reverse gear mechanism. Cam shafts are .50 per cent carbon steel, heat treated, ground to size. Cams are open-hearth steel, case hardened and ground. After end of base houses timing gears, etc., supported by ample bearings. Timing gears are all of the helical type, which makes a very much more silent operating motor. Ignition is standard Bosch magnetic plug system in connection with jump spark. Cylinders are lubricated by positive feed mechanical oiler. The base and working parts of the engine are lubricated by the Brush patent constant-level system. The engine can be equipped with a Leece-Neville system of electric starting and lighting.

The Inter-Yacht Club Shoot

(*Continued from page* 305)

The second contest was held at Manhasset Bay Y. C., Port Washington, L. I., on March 7. Mr. F. D. Kent, of the Bayside team, made the exceptionally fine showing of 96 "kills." Bayside won the shoot with a team score of 419, and Manhasset Bay beat New Rochelle 408 to 400; Marine and Field also failed to produce some of their good men, and finished fourth, with 392; Port Washington scored 352. After the second shoot the points stood: New Rochelle, 5; Bayside, 4; Manhasset, 4; Marine and Field, 3.

On arriving at the Bayside Yacht Club for the final test on March 21, the New Rochelle men, although leading by a narrow margin, faced a situation to test their nerve and courage. Realizing the hard fight that confronted them every effort had been made to get out their strongest team, but a number of the very pick of New Rochelle's men were missing, each prevented from appearing by one cause or another. Moreover, Bayside, on their home grounds, had out their strongest team, including a number of seasoned shooters of considerable reputation. Manhasset Bay also had out their best men, and were familiar with the surroundings.

Before the contest it looked as if the result lay between Bayside and Manhasset Bay, with Marine and Field likely to fight it out with New Rochelle for third place. However, Bullock, with 91 "kills," Thompson 88, Granbery 88, Stoddard 87, and Donovan 86—a total of 440—gave New Rochelle an average of 88 per cent, which is pretty hard to beat, and Bayside failed to equal it, being two birds down at the finish, with 438, while Marine and Field scored 427 and Manhasset Bay 414. Points for the series thus stood: New Rochelle, 8; Bayside, 6; Marine and Field Club, 4; Manhasset Bay, 4.

F. B. Stephenson, of the Marine and Field Club, won "high gun" prize at New Rochelle, and Mr. F. D. Kent, of the Bayside Y. C., won "high gun" at Manhasset. At the final shoot at Bayside, H. S. Bullock, New Rochelle; H. L. Hoyt, Manhasset, and E. C. Lott, Marine and Field, tied, with 91 each. In the shoot off at 25 birds, Bullock led most of the way, killing 23, but Hoyt, after missing his first target, broke the next 24 straight, and won the prize. Lott, with 21, failed to shoot up to his best form. Hoyt also won the high average prize.

The men on the winning team entitled to prize fobs were H. S. Bullock, J. P. Donovan, G. P. Granbery, W. T. Brennan and B. R. Stoddard.

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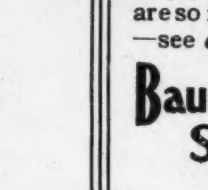

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Progress of the Hydroplane

(*Continued from page 284*)

The engines of Maple Leaf IV of last year weighed 7.5 pounds per horsepower, and are of great refinement in design and workmanship, and are no doubt the "last word" in lightness. It is difficult to see how anything lighter than this can be produced and still stand the test of many 30-mile races.

Another curve worthy of considerable study and thought is shown in Fig. 2. This curve shows some of the recent boats' speed records plotted against power. Thus we get a sort of average speed-power curve for this type of boat. Of course, this data is open to the same objection as mentioned for Fig. 1; still every precaution has been taken. The curve shows, at least, the general relation between speed and power. It is interesting to see how all the 40-footers fall on one fair line. It is still more interesting to know that the lower part of the curve coincides exactly with the expanded model curve of Dixie II's model as towed in Washington.

It was found that the 20-footers formed a consistent group by themselves, so a separate curve was drawn as shown. Thus it is seen that the same speeds can be obtained in a 20-footer with about 150 horsepower as can be obtained in a 40-footer with some 700 horsepower. This would look as if most of the racing of the future would be done with 20-footers. Then, too, the curve for the 40-footers goes up very rapidly after 30 miles, while the curve for the 20-footers goes up gradually for all speeds. This would seem to show that the 20-footers more nearly approached the ideal hydroplane, and it is in this class that one should look for the speed records of the future.

This curve sheet should not be taken too seriously, but it forms an interesting tabulation of power and speed and shows what has been done in the past.

Equipment for New York Waters

A new law requires all craft propelled by machinery and navigating waters not under Federal jurisdiction, to be equipped with safety devices, signals and lights in practically the same manner as are vessels subject to the United States Steamboat Inspection Service. This law will affect all craft on the State canals and on the landlocked lakes.

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